

Amazing For The Commodore AMIGA[®] COMPUTING™

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Your Original AMIGA® Monthly Resource

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Projects:

- ◆ Developing Desktop Savvy:
Design and publish brochures
with attached rolodex cards

Back to Basics



FROM NOW ON,
COMPOSING,
RECORDING AND
ARRANGING MUSIC

MEANS 90%

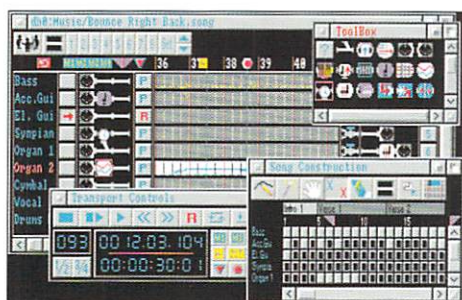
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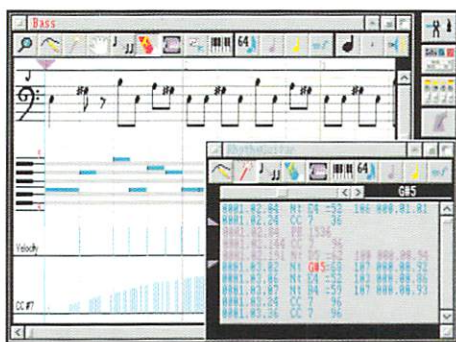
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BAR&PIPES PROFESSIONAL will open your eyes to a new vision of music software. Its expandable design and innovative architecture increase the creativity and productivity of the modern composer.



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EMBELLISHING: BAR&PIPES PROFESSIONAL's Tools enhance your music as you compose, playback or edit. These modules perform standard, musical and technical tasks to save time and give you the creative edge. And with Create-a-Tool, you can invent custom-designed MacroTools to suit your every musical whim.



EDITING: BAR&PIPES PROFESSIONAL furnishes a wide range of editing options including an event list, piano roll and real music notation that you can see, hear and change. With a stroke of the mouse, you can adjust MIDI events graphically or numerically.

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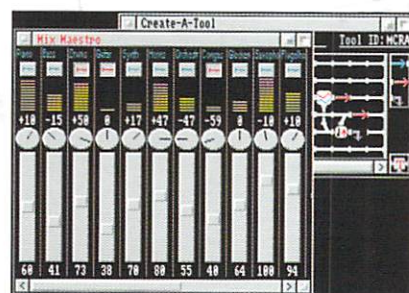
transposed score and individual parts, with lyrics, chord symbols, measure numbers, labeled sections, page numbers, author, title and a wide selection of automatic transpositions.

ARRANGING: BAR&PIPES PROFESSIONAL's Graphical Song Construction window enables you to see an overview of your composition, label it and reorganize it. And with its Graphical Tempo Mapping window, you can easily add realistic tempo change curves.

MIXING: BAR&PIPES PROFESSIONAL's automated mixing feature, MixMaestro, includes real-time control of volume, panning and other MIDI controllers. As your music plays, you can move the various sliders and knobs to adjust the balance of your arrangement, then save your mix to disk. MixMaestro automatically sends control change data to your tracks.

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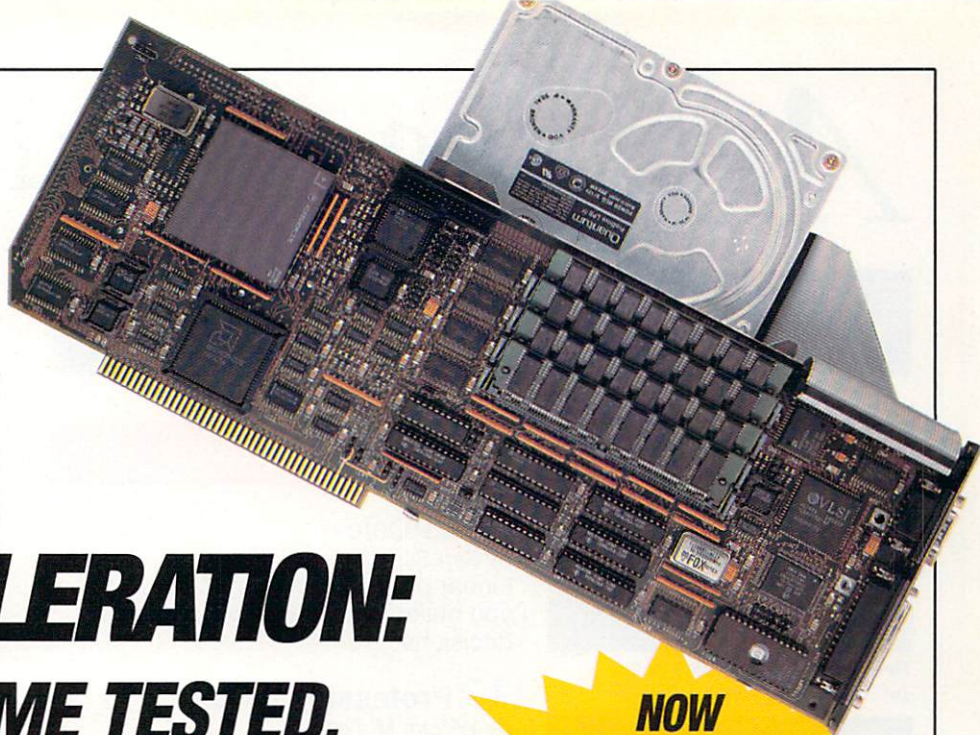
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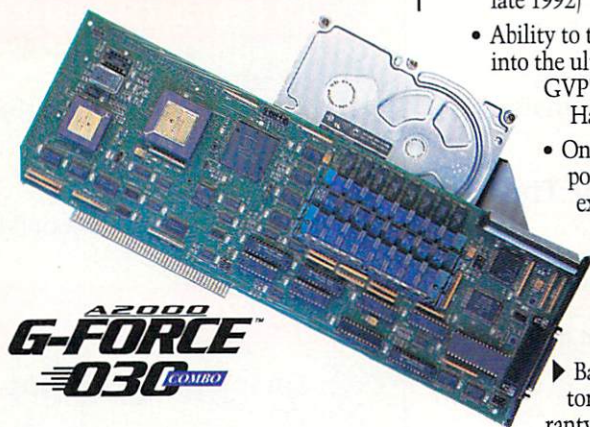
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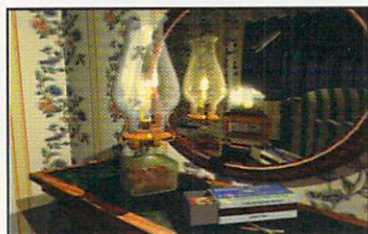
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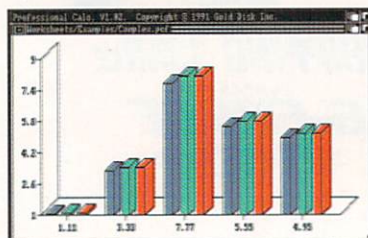


Cover photograph by
Rick Hess

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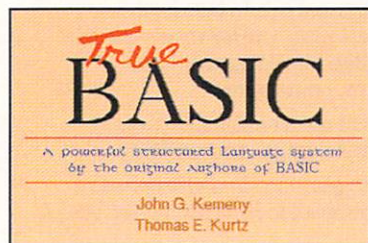
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by Mark Thompson



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from Gold Disk



Hard Disk Organizer
from Display Systems International



True BASIC
from True BASIC, Inc.



Maverick V3
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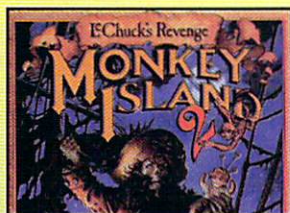
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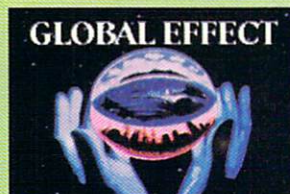
Monkey Island 2
from Lucas Arts/Lucasfilm Games...



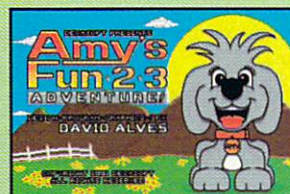
...plus
Video Delay Line TDL488-T
from Allen Avionics
in this month's **New Products**



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Hot Tips offers you a chance
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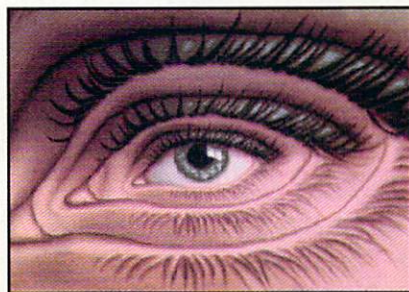
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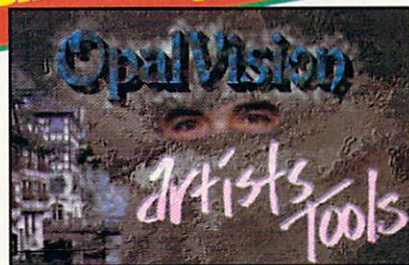


The Third Eye

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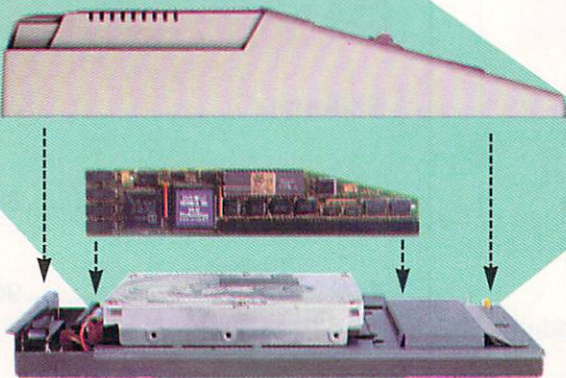
See how artists **Tom Law** and **Ilene Astrahan** combine talent with Amiga power in this month's **And Furthermore**.

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OpalVision premieres at the **World of Commodore Amiga** in Sydney, Australia.

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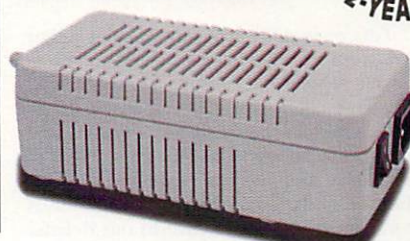
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EDITORIAL CONTENT

There is power in the written word, a fact I remind myself of constantly. However, this month's events brought the matter home.

Yes, Virginia, There is a Portal.

In a recent introductory article on telecommunication software and hardware, Rich Mataka wrote about software used by CompuServe and GEnie. He also listed a comparison of costs for these two systems and long distance telephone charges to show the difference and possible savings with a 2400, 9600, or 14400 baud modem. In one place he mentioned these two services as well as BIX. In no place did he describe any service in detail.

However, Mr. Mataka did not include a mention of Portal, a commercial network system which now contains the famous Amiga Zone. Rich neglected to mention Portal as he neglected to mention a half dozen other systems. The reason is simple—his original obligation was to discuss telecommunication software and modems on a basic level. He accomplished this in nine pages. We honestly had no more room.

However, that was not all. Gary Fait wrote an article in the same issue on Usenet and at the close, he discussed several ways of gaining access. But he did not mention that Usenet is available through Portal for an additional cost. Although Portal's UUCP connection is listed in AC's GUIDE, we did not pick up on the omission. To be honest, it is easier to edit an article for mistakes than to edit for omissions. In short, the slight made it into print and into the hands of thousands of Amiga owners.

We never like to make mistakes. Since the beginning, we have continued to increase our effort to eliminate mistakes in our publications. With 18 issues per year (12 ACs, 2 AC's GUIDES, and 4 AC's TECHs), we produce more publications than any other source for the Amiga, and errors are bound to occur.

We require your feedback. When you see an omission, please write us. We read every piece of mail and do our best to correct any oversights or errors. The only thing that bothers me about the Portal problem is that no one wrote.

I discovered the problem when an author called to tell me what he saw posted on Portal. He sent a copy of the messages for me to read and I was appalled. Not only were the messages full of disdain for the article for not discussing their favorite network, but they were full of inaccuracies and lies concerning the focus, dedication, and production of this magazine. A few messages were addressed to our defense and for that I am grateful. But the majority of the messages requested that strong letters should be sent immediately. Although the marketing department of Portal faxed us several sheets on their services (but not how to sign up), we have yet to receive a single letter of complaint from the original message writers.

There is no organization in the Amiga community who is performing a dedicated service that we will not always do our best to assist.

If any one would like to contact the offices of Portal and discuss how to sign up, please call (408) 973-9111 for their voice line.

What disturbs me most is that I never received a single letter from the Portal subscribers. Hasn't it become clear that our best weapon in a market dominated by people who cannot see past the MS-DOS machines and the Macintoshes is to write? Write when you do not see the coverage you think the Amiga deserves. Write when you hear about a "great new product" for another computer platform when there was a similar product long before on the Amiga. Write when you feel an injustice has occurred, whether it is an Amiga issue or something else which concerns you. Write!

I believe we have the power to change the way people think, but only if we exercise our ability to inform. The Portal problem brought up the question to me, but it was Phillip Robinson who drove home the desire.

Oh, Mr. Robinson.

Phillip Robinson is a columnist for the *San Jose Mercury News*. His weekly column appears on Sunday, but it is also placed on a syndicated wire service and is accessible to all subscribing newspapers. What this means is that the article he supplies one week to the *San Jose Mercury News* can end up in the *Washington Post* or the *Boston Globe* the next week. In the case of the article published on July 12 in the *Mercury*, it did.

Imagine my concern when I was faxed the following headline from a developer in the Washington D.C. area: "Commodore Lets the Amiga Die a Slow Death, By Neglect." The *Washington Post* ran the article on July 20. This was followed by another version of the article titled, "A sad fate for a beloved, useful machine" from the *Boston Globe* on July 21. Each article was a differently edited version of the original Mercury article whose headline read, "Commodore lets Amiga die slow death."

Mr. Robinson has followed the Amiga's progress since its first introduction in 1985. Most of the article is a combination of his perceptions of the Amiga, its marketing, and its apparent growth since that time. Unfortunately, Mr. Robinson's perceptions of the market state that the Amiga is only good if you are going to use the Video Toaster. Outside of video effects, he has little use for the machine. In fact he ends his column by stating:

"If you want to work with digital video, the Toaster is good enough to warrant buying an Amiga. But don't think of it as your computer; consider it just a power supply for the Toaster."

But if you are not already hooked on the Amiga or fascinated by video toasting, don't even think of buying one. You'll be getting heartache and promises not kept. Maybe at least other computer companies will learn a lesson of caring and respect from this sad affair."

In effect, since Mr. Robinson sees no current heavy marketing for the computer, he assumes there are no sales. In fact, Commodore has been reporting increases and an ability to

put the Amiga in professional markets without a lot of advertising (please see the editorial in the August issue of AC).

While, as a consumer, I would feel a lot better if I saw more advertising for the Amiga, I cannot justify a comment that the Amiga is dead or even dying. The last few months have seen an avalanche of new products for the Amiga. The scope of production by hundreds of developers has brought us an array of options for this machine.

In all honesty, I cannot blame Mr. Robinson for his lack of knowledge of the Amiga's development. His comments demonstrated a lack of understanding as he said, "The Amiga 500 appeared as a sort of Amiga Jr. with less power and memory but a \$500 price."

While Mr. Robinson's observations may find some agreement in the Amiga community, we must all find fault with his conclusions. "If you have an Amiga, don't fret about this news. You've adapted to living in the dark, being fed biodegradable stories about new models and upgrades. There will be new games, a few new programs, a few new accelerator boards, and fellow enthusiasts to club with for another five years at least."

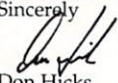
Are you angry enough to write yet? I hope so! This article was published in the heart of high tech country and has been reprinted in different forms across North America. The only way to change the perception is to write to Mr. Robinson.

I talked with him the day after I saw the article from the *Washington Post*. He seems a fair enough fellow; it's just that he has the latest IBM and Macintosh products to work with and has not seen the Amiga that Commodore has often promised but not delivered. I believe he is functioning from a lack of information, and only we will be able to set the record straight.

I have already sent Mr. Robinson a copy of the latest AC's GUIDE as well as several back issues of this magazine. This should at least alert him that there is a market and that people are doing things with the Amiga aside from the Video Toaster and games. What he must see now is the actual rank and file, the Amiga users in their entirety. We need you to tell him what you are doing with the Amiga. Send mail to:

Phillip Robinson
P.O. Box 1357
Sausalito, CA 94966

Please send an additional copy to our offices so we can keep track of the response and remind Mr. Robinson of what it means. Once he sees the things that are happening with this computer, I believe we will be able to paraphrase Mark Twain and say, "The reports of the Amiga's death have been greatly exaggerated."

Sincerely

Don Hicks
Managing Editor

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With a PhonePak VFX system installed
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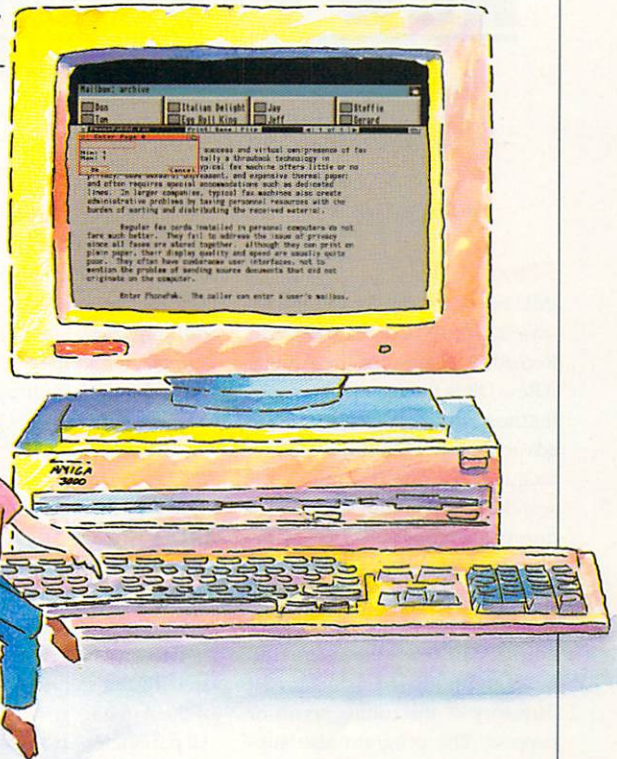
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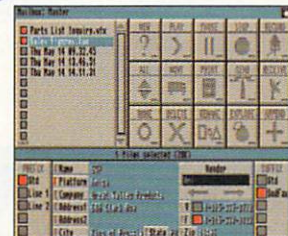
Plus, PhonePak is the only technology that gives you fax and voice information combined.

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New Products

& Other Neat Stuff

compiled by Timothy Duarte

• Software •

ARexxDB 2.0

JMH Software announced the release of version 2 of the ARexxDB Records Manager for the Amiga. ARexxDB is the records manager for the serious Amiga user, taking advantage of the popular ARexx language. Version 2.0 adds record searching, automated indexing, a query language, and a utility for creating files. Improved file handling of ARexxDB increases the safety of your files during an abnormal shut down. File names and paths are now based on the current directory of the calling script or process. The program also supports multitasking, record and file locking, dynamic RAM data caching, and linear hashing. *Suggested retail price: \$125, JMH Software, 7200 Hemlock Lane, Maple Grove, MN 55369, (612) 424-5464, Inquiry #207*

Broadcast Fonts 3D: Professional Pack

Unili Graphics has released a set of 27 3-D fonts for use with *LightWave 3D* and the NewTek Video Toaster. The Professional Pack includes all objects from Master Packs 1, 2, and 3. The objects support phong shading for the best possible output—even when using the shearing capa-

bilities of the Toaster 2.0. Each font set includes both upper and lower case, numbers, and 29 punctuation symbols. *Suggested retail price: \$395, Unili Graphics, 143 Lorraine Ave., Pittsburg, CA 94565, (510) 439-1580, Inquiry #208*

D-70 Editor

The D-70 Editor is a program that allows the owner of a Roland D-70 MIDI keyboard to edit all parameters including tones, patches, performances, rhythm setup, and more. You can create new D-70 patches or change existing ones, utilizing the friendly environment of the Amiga.

All parameters are displayed on a few, easily accessible screens. Change any value using the mouse or keyboard. The D-70 Editor is almost like having a new front panel for your D-70. All parameters can be saved to floppy disks. These data files can then be sent back to the D-70. Create a library of sounds, store them on an Amiga disk, and load them back into the Amiga at any time. Other features include data manipulation and a tutorial that gives tips and advice on how to create new sounds. *Suggested retail price: \$50, dissidents, 10325 Woods Rd., Utica, NY 13502-9574, (315) 797-0343, Inquiry #209*



Gods

Programmed by the Bitmap Brothers, the same team that created *Speedball 2*, Gods takes the player back to ancient Greece as mythical warrior Hercules explores The City, The Temple, The Labyrinth, and The Underworld in his quest for immortality.

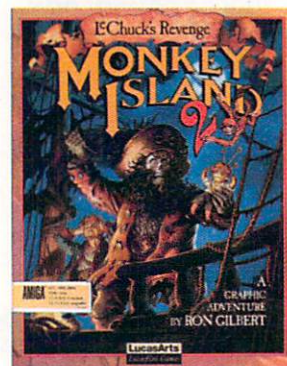
In Gods, decision-making and intelligence are the key. Skill level is evaluated through the player monitor mode, which aids novices and rewards skilled decision making. Gods features two types of puzzles to solve—clever reward puzzles and progression puzzles. Clever reward puzzles require the player to discover clues and find hidden objects and move them to an appropriate location. Progression puzzles take some thought, as the player chooses to take short cuts, fall down trap doors, and more. Gods also features an original soundtrack by former Ultravox member John Foxx. *Suggested retail price: \$39.95, Konami, 900 Deerfield Parkway, Buffalo Grove, IL 60089, (708) 215-5111, Inquiry #210*

Kara Toaster Fonts

Kara Computer Graphics has expanded its existing Toaster Font line with two new packages—Toaster Fonts 3 and Toaster Fonts 4. These new font packages were designed specifically with comments from registered users of previous packages in mind. The highly requested need for script and cursive styles has been answered. The fonts can also be stored in a compressed format. Toaster Fonts 3 has shiny Caps and Small Caps fonts with Outline, Drop, and Cast Shadows. Font styles are a chiseled Gothic serif in gold and metal, and a Roman face with a shiny gold extrusion and a beveled Gothic italic. Toaster Fonts 4 consists of four shiny script and cursive fonts in a range from casual to elegant. Styles are a chiseled Roman script in Gold and Metal, a casual Brushed script, and a Calligraphic face. *Suggested retail price: \$99.95 each, Kara Computer Graphics, 2554 Lincoln Blvd., Suite 1010, Marina Del Rey, CA 90291, (310) 578-9177, Inquiry #211*

MetaScope v1.5

MetaScope, the Amiga debugger, has been upgraded with a number of System 2.0 specifics. Features include a load/save configuration, enforcer support, 68020/030 support, memory windows, execution control, expression evaluation, full symbolic capability, and a direct-to-memory assembler. *Suggested retail price: \$99.95, INOVATronics, 8499 Greenville Ave., Suite 209B, Dallas, TX 75231-2499, (214) 340-4991, Inquiry #212*



Monkey Island 2: LeChuck's Revenge

Guybrush Threepwood learns appearances can be deceiving in Monkey Island 2, the second high-seas adventure.

Pumped at having destroyed the Evil Ghost Pirate LeChuck at the end of *The Secret of Monkey Island*, Guybrush has retold the tale innumerable times. Guybrush sets his sights on a new bad guy—Largo LaGrande, extortionist extraordinaire. Eventually, Guybrush loses LaGrande. In the process, LeChuck is reincarnated, and he's mighty mad. Guybrush ends up in a hilarious search for several mysterious, missing map pieces that, when correctly assembled, will direct him to a treasure. The treasure's contents will reveal how to get rid of LeChuck once and for all. Monkey Island 2 requires 1MB of RAM. *Suggested retail price: \$59.95, LucasArts/Lucasfilm Games, P.O. Box 2009, San Rafael, CA 94912, (415) 662-1700, Inquiry #213*

YOU'LL BUY IMPACT VISION 24 FOR ONE VIDEO NEED AND FIND YOU NEED IT FOR EVERYTHING VIDEO



If you're into video, IMPACT VISION-24 is truly a dream come true for your A3000 or A2000. It is the first multi-function peripheral specifically designed for the A3000's video expansion slot.

With the optional A2000 genlock slot adaptor kit, it also perfectly complements and enhances the A2000.

Check out these features, all packed on a single Amiga® expansion board!



► **Separate Composite and Component Video (RGB+Sync) Genlocks.** RGB genlock operates in the digital domain, for digitally perfect

production studio quality mixing: no color bleeding, no ghosting, no artifacts . . .!

► **1.5MB Frame Buffer.** Display 24-bit, 16 million color images on your Amiga monitor. On a multi-sync monitor, you can even display 16 million color images in non-interlaced mode!

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► **Video Interface Unit.** Transcode Composite or S-VHS video into RGB. (Optional version available with YUV input/output.)

► **Flicker-Eliminator.** Duplicates and enhances the A3000's display enhancer circuitry. It even de-interlaces live external video! A must for any A2000 owner. Ask about our A2000 "genlock slot trade-up" program.



► **Simultaneous Component Video (RGB) Out, Composite Video Out and S-VHS Video Out.** Now, anything you can see on your Amiga monitor can be recorded on video tape,

Introducing the IMPACT VISION 24™ from GVP The All-In-One Video Peripheral for the A3000 and A2000

including animations, ray-traced 24-bit images and more!

► **Picture-in-Picture (PiP) Display.** Freeze, resize, rescale and/or reposition live incoming RGB video just like any workbench window at the double click of a mouse or the pressing of a "hot key". With a multi-sync all this can even be in rock steady de-interlaced mode. Unique "reverse-PiP" feature, even allows you to place a fully functional Amiga workbench (or other application) screen as a SCALE-ABLE (shrunk down!) and re-positionable window over full-screen live video.

► To make sure you can take full and immediate advantage of every feature of your new Impact Vision 24 video-station, we even include the following software with every unit:

● **Caligari™ IV24.** An exclusive version of the leading broadcast quality, 3-D modelling and rendering

program. Use your imagination to model 3D, 16 million color, scenes. Use your digitized video images as textures to wrap around any object! The mind is the limit!

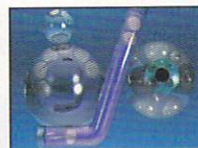
● **SCALA™ Titling.** Easy-to-learn, video titling package complete with lots of special fonts and exciting special transition effects. Turn your Amiga into a character generator.

● **MACROPAINT™ IV24.** A 2D, 16 million color paint program that lets you have fun



creating or manipulating any 16 million color, 24-bit image.

● **Control Panel.** Provides full software control over all Impact Vision-24's numerous features. Use your mouse or simply

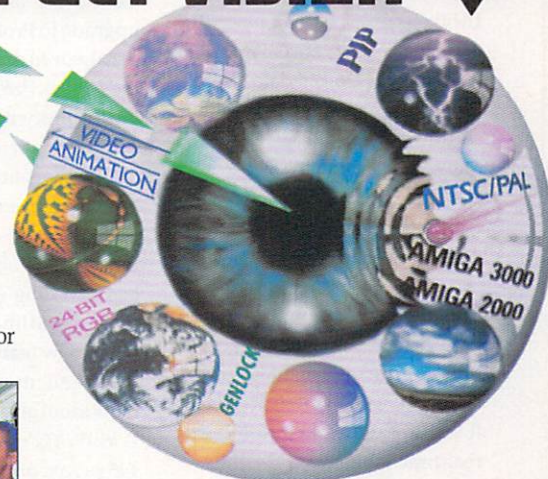


press a (configurable) "hot key" to activate any feature.

At GVP, we wanted to make a major impact on the use of the A3000/2000 by professional video enthusiasts. With the Impact Vision-24 we have!

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New Products

& Other Neat Stuff

NeuroPro 2.0

MegageM is pleased to announce the release of NeuroPro 2.0, a sophisticated neural network program for artificial intelligence applications on the Amiga. It has capabilities for large pattern recognition systems development and practical applications in an environment that fully exploits the power of the Amiga.

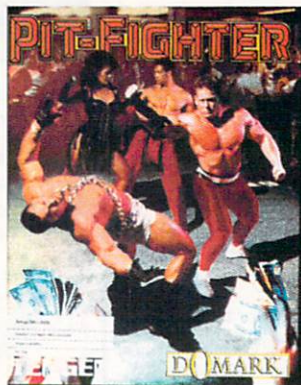
Features include a widely used three-layer back propagation network system with up to 256 cells per network layer and 131,072 network interconnections, flexible data formats, a complete graphical presentation of all network operations and data objects in real time, and more. NeuroPro also has three complete and consistent user interfaces—the graphic user interface control panel, pull down Amiga menus with keyboard shortcuts, and an ARexx interface. It can operate on up to 256 bits of data at once, including data treated as 32 characters of ASCII text, arbitrary bit arrays, and 8 x 8 or 16 x 16 pixel graphic objects. NeuroPro 2.0 can also store and manipulate up to 4096 256-bit data objects. The program requires a math coprocessor and 2MB of RAM. *Suggested retail price: \$299.95, MegageM, 1903 Adria, Santa Maria, CA 93454, (805) 349-1104, Inquiry #214*

Pitfighter

Domark Ltd. has released Pitfighter, an astonishing conversion of Tengen's smash arcade hit. It features digitized graphics and real-time sprite scaling. Players choose from three players: TY the kickboxer, KATO, a third-degree Karate Black Belt, or BUZZ, an ex-pro wrestler. You will then be matched in a no-holds-barred, fight to the death in an effort to become the new Pitfighting World Champion.

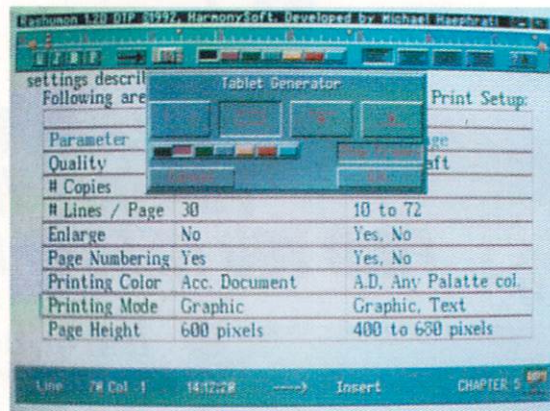
Your opponent will be one of eight brutes: The Executioner, Southside Jim, Angel, Mad Miles, CC Rider, Heavy Metal, Chainman Eddie, or The Ultimate Warrior.

As the game progresses, it becomes apparent that not only strength and skill are essential, but also cunning and the ability to smash your opponent with any object more quickly than he can smash you. Objects on the floor—crates, kegs, throwing stars, and barrels—are placed in the pit for the grabbing. Further in the game, players can use sticks and motorcycles against the opponents. *Suggested retail price: \$39.95, Domark, 5300 Stevens Creek Blvd., 5th floor, San Jose, CA 95129, Inquiry #215*



Professional Draw 3.0

Gold Disk announced a major upgrade to Professional Draw 3.0, a structured drawing program for the Amiga. Pro Draw 3.0 provides a direct link with Professional Page 3.0, genie functions that automate most of the routine tasks associated with design and layout, and comprehensive ARexx support. Pro Draw 3.0 also includes several text handling enhancements and color handling improvements. Other new features include undo, redo, and the ability to display individual objects in wireframe or WYSIWYG mode. A collection of 145 pieces of clip art is packaged with the program. A hard drive and 2MB of RAM are required. *Suggested retail price: \$199.95, Gold Disk, 5155 Spectrum Way, Unit 5, Mississauga, Ontario, L4W 5A1, Canada, (416) 602-4000, Inquiry #216*



Rashumon 1.2D

Rashumon, the multi-lingual word processor, now has a tablet generator. Tablets can now be created in any color and size, according to the tab stops assigned to each line. Rashumon's features include the ability to import and export ASCII files, string handling, a thorough user manual, and more. *Suggested retail price: \$200, upgrade from 1.2 \$30, upgrade from 1.1 \$40, HarmonySoft, 69 Jabotinsky St., Givatayim, Israel, 53319, (011) 972-331-5967, Inquiry #217*

RoboSport

Set in a futuristic time in which robots do battle for the amusement of humans, RoboSport is a battle-simulation game that combines the tactical challenge of chess with the intensity of urban guerrilla warfare. Players can program maneuvers for as many as four teams of up to eight robots each simply by pointing and clicking on an icon construction set. Your robots can battle the computer's robots, which are programmed to be crafty, defensive, ferocious, or stupid. Play against your friends on a single



Amiga or other computers. Connect up to four machines using Commodore's TCP/IP network board. It can even network with the IBM or Macintosh version of the game.

Robots battle in 24 arenas of three basic types: the manicured streets of a suburb, a giant computer motherboard, or the rubble of a devastated town. Analyze your strategies with a VCR-type replay feature. 1MB of RAM is required. *Suggested retail price: \$59.95, Maxis, 2 Theatre Square, Suite 230, Orinda, CA 94563, (510) 254-9700, Inquiry #218*

Super_DJC Color Driver

Do your pictures look too dark when you print them out? Are the colors wrong or hard to tell apart? Consider the new printer driver for your Hewlett Packard DeskJet 500C.

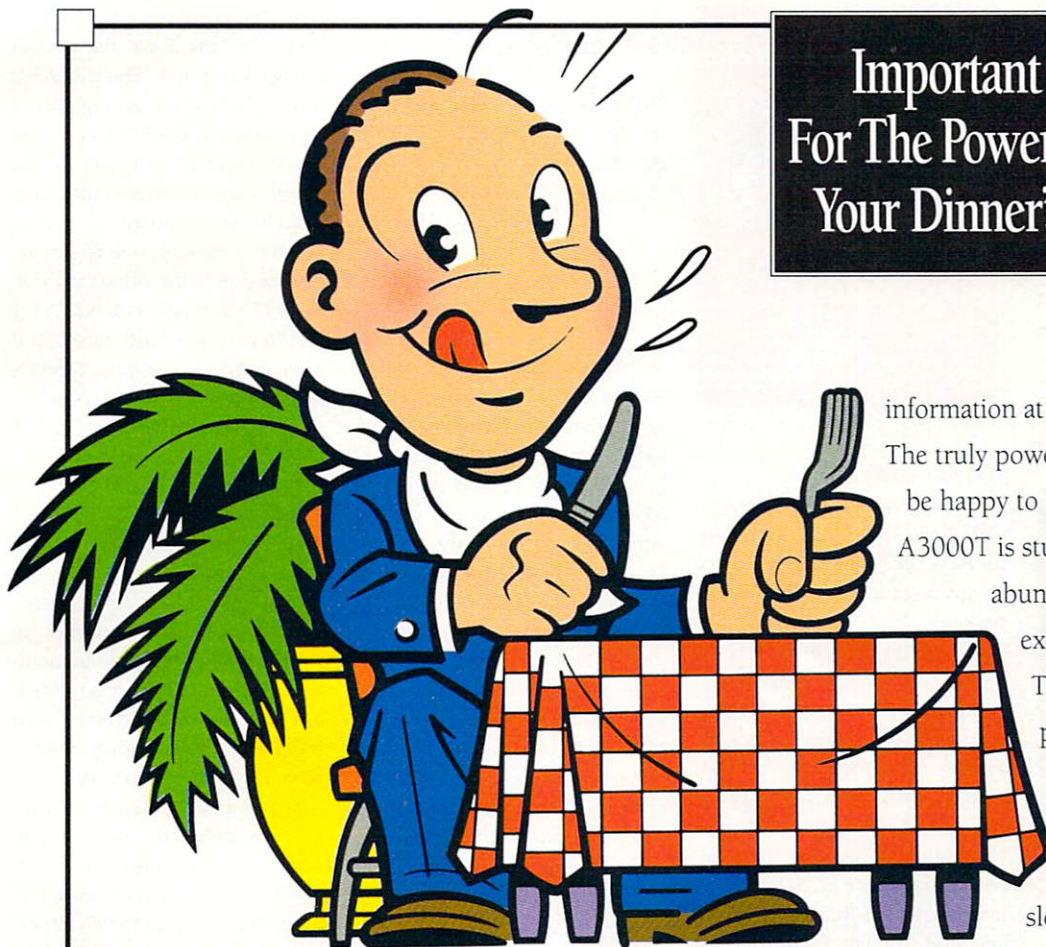
Super_DJC offers 16 shades of grey and 4096 colors, each distinct and natural looking. Other features include faster compression methods, proportional grey balancing, more options for depletion and shingling. *Suggested retail price: \$52, Creative Focus, Box 580, Chenango Bridge, NY 13745-0580, (607) 648-4082, Inquiry #219*

Super Space Invaders

The arcade coin-op smash has returned and provides the opportunity for a new generation of gamers to enjoy the same thrills and excitement that occurred with the original in 1979.

After 13 years, the aliens are back. The game combines a host of features from arcade classics such as Phoenix, Gorf, and Galaxian. Op

Important News For The Power Hungry: Your Dinner's Ready.



information at breakneck speed. The truly power famished will be happy to know that the A3000T is stuffed with an abundant selection of expansion slots. There's a co-processor slot. A video slot for internal devices. Up to four PC slots. And up to five Zorro III slots. Every

Come and get it.

The new Amiga® 3000T multimedia workstation tower—the most expandable, flexible Amiga ever built.

Now powered by a 25 MHZ Motorola 68040 CPU, with a 68882 math coprocessor, the A3000T is faster than ever before. (Current A3000T users can upgrade to a 040-based accelerator card for just \$1,998.)

The A3000T features a 200MB hard disk drive. A 3.5" floppy disk drive. 5MB of RAM, expandable to 18MB. And 32 bit bus architecture to transfer mammoth amounts of



Amiga 3000 series computer comes with Commodore Express™ Gold Service options.* And convenient leasing terms are available.

Now, you'd expect a power feast like this to carry a fat price tag. But now through September 30, you can sit down to an Amiga 3000T with a monitor for just \$5,998.** Which in itself is a powerful reason for seeing your Commodore dealer today. For a dealer near you, call 1-800-66-AMIGA. In Canada, call 1-800-661-AMIGA. Bon appetit.



Commodore
AMIGA

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Circle 101 on Reader Service card.

New Products

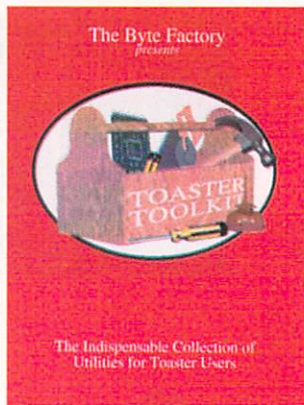
8 Other Neat Stuff

timized graphics and sound as well as many new waves, and secret levels are included. *Suggested retail price:* \$39.95, Domark, 5300 Stevens Creek Blvd., San Jose, CA 95129, (408) 246-6607, Inquiry #220



Thinker 2.1.4

Poor Person Software announced the release of their new version of Thinker, a hypertext application. Release 2.1.4 is CD-ROM ready with the ability to treat any CD-ROM database as a Thinker hypertext document. Imagine replacing clumsy searches with direct hypertext links from subject to subject. Thinker 2.1.4 also lets you modify read only Thinker documents on CD-ROM as if they were standard Thinker documents. Thinker can be used to organize your work, produce multimedia study systems, write interactive fiction, create databases of text and video, and other tasks. Thinker uses Hypertext to tie together word processing, outline processing, database functions, and multitasking presentations with a single product that does not require any programming by the user. Registered users may upgrade for \$15. *Suggested retail price:* \$80, Poor Person Software, 3721 Starr King Circle, Palo Alto, CA 94306, (415) 493-7234, Inquiry #221



Toaster Toolkit

The Byte Factory has released a collection of utility programs for the NewTek Video Toaster. Three programs are included in the package.

The Toaster Sequence Editor, which was previously sold as a stand-alone program, creates script files which can control the Toaster to perform effects, load, grab, and save frames, display CG pages, wait and loop for time and GPI trigger, output speech, serial, and text. It uses a point-and-click interface with full cut, copy, paste, and undo functions. Scripts can also be saved in AReXX format, but AReXX is not required.

The Toaster Project Editor creates custom project files. Effects can be rearranged, unwanted effects can be deleted, and new effects can be added. Existing effects can be duplicated with different speeds to fine-tune them to the user's needs. The FrameStore Compressor reduces the disk space required to store Toaster 2 FrameStore images. No image quality is lost and the resulting files are usable with all Toaster software. It also includes a snoop mode for unattended use, such as rendering to the hard drive. *Suggested retail price:* \$175, The Byte Factory, P.O. Box 891771, Oklahoma City, OK 73189-1771, (405) 631-BYTE, Inquiry #222

Ultimate Wood Collection

This set consists of digitized wood textures for use in 3-D rendering, paint, presentation, and desktop publishing. All images are 320 x 400 seamless HAM IFFs. Some textures are in as many as three styles—plain, rough, and polished.

All images are easily scaled for use as brush or pattern fills and texture maps. A 24-bit JPEG version will be available soon. *Suggested retail price:* Sampler \$60, Full set \$190, Bearded Wonder Graphics, 1866 Ocean Ave. 5C, Brooklyn, NY 11230, (718) 998-1767, Inquiry # 223

• Hardware •

A-Max II Plus

A-Max II Plus is an internal card which may be easily installed into a slot in an Amiga 3000 or 2000. A-Max II Plus provides Apple Macintosh emulation. A built-in AppleTalk port directly accesses LaserWriters and LocalTalk networks. Amiga disk drives can read, write, and format 800K Macintosh disks. The card also includes two serial ports identical to those found on Macintosh computers and a MIDI interface. Macintosh System 7 is also supported. *Suggested retail price:* \$499.95, ReadySoft Inc., 30 Wertheim Court, Suite 2, Richmond Hill, Ontario, Canada, L4B 1B9, Inquiry #224

Emplant

Emplant is a hardware/software system that is designed to allow the emulation of virtually any computer using your favorite Amiga. Emulation software, the Emplant hardware, and the ROMs from the computer to be emulated are all that is required. Three option packages are offered: High speed Macintosh serial ports and AppleTalk support, an SCSI interface, and a combination of both. *Suggested retail price:* \$234.95, Utilities Unlimited, 1641 McCulloch Blvd., Suite #25-124, Lake Havasu City, AZ 86403, (602) 680-9004, Inquiry #225

HiQ A500 Tower Kit

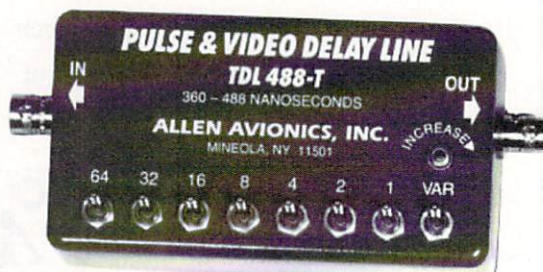
Now you can have the perfect Amiga 500 system. The HiQ A500 Tower Kit has the expandability of an A2000, room for 10 half-height drives, and a 250-watt power supply. Other features include a detachable keyboard case, four 100-pin card slots, one 86-pin accelerator slot, one video card slot, three PC-compatible slots (2 AT, 1 XT), key/lock security access, and more. *Suggested retail price:* \$699.95, INOVAtronics, 8499 Greenville Ave., Suite 209B, Dallas, TX 75231-2499, (214) 340-4991, Inquiry #226

Toaster Cozzy

The Toaster Cozzy allows for the proper operation of a NewTek Video Toaster card in the Amiga 3000 computer. No warranties are voided in this system, as no modification to any product is needed. The Cozzy includes a 65-watt regulated power supply with a slaved instant on feature. It also provides a stable black burst generator with 5 BNC video output. The Cozzy also works with a 2000 or a 500 with a video slot installed. *Suggested retail price:* \$790, Heifner Communications, 4451 I-70 Dr. NW, Columbia, MO 65202, (800) 445-6164, Inquiry #227

Video Delay Line TDL488-T

Allen Avionics has announced a second video delay line with advanced features such as a +/- nanosecond fine trimmer designed for use with the NewTek Video Toaster and the Amiga. The Video Toaster has an internal 400+ nanosecond delay which must be accounted for when integrating it into a broadcast or post production facility. The TDL488-T provides a 360 nanosecond fixed



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The SAS/C® Development System, Version 6

Ride the wave of the future with our new release of the SAS/C Development System—Version 6. It's fast, flexible, and powerful, offering you new ways of producing the most efficient code for the Amiga®. Explore a whole new world of development capabilities with these new Version 6 features and enhancements:

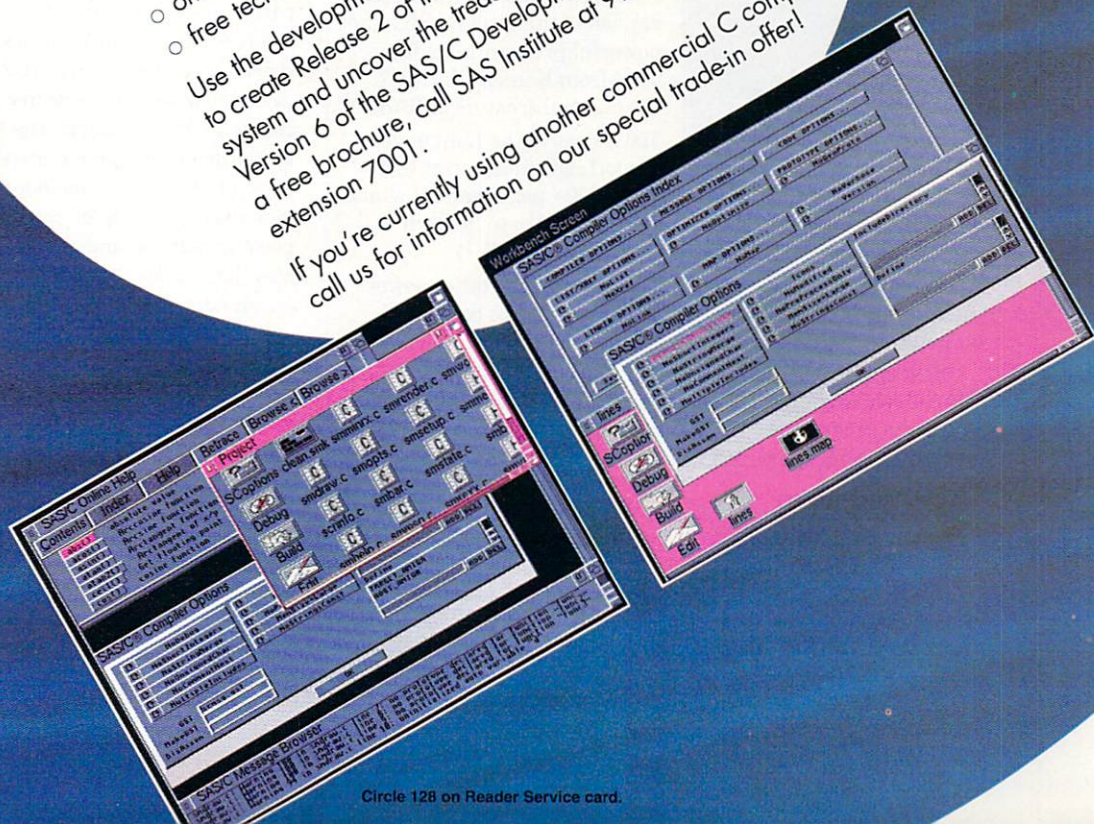
- an integrated environment
- fully ANSI-compliant compiler and libraries
- improved CodeProbe debugger
- new global and peephole optimizers
- greatly enhanced error and warning messages
- all new documentation
- increased AREXX support
- online help
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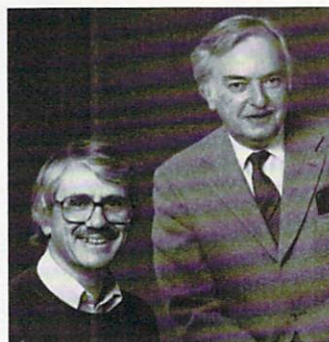
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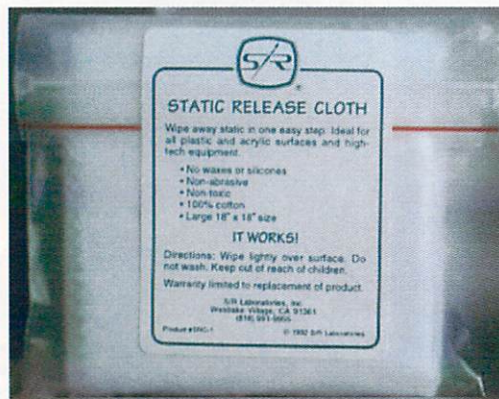
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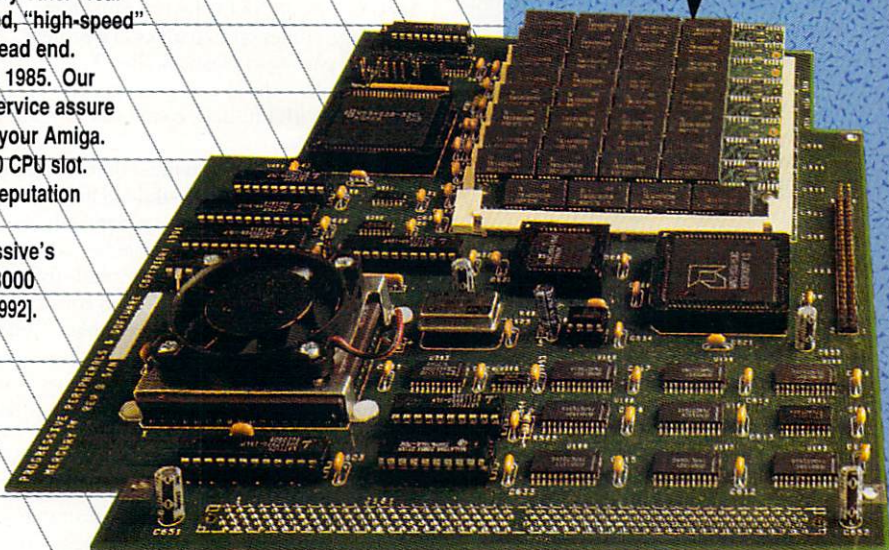
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REVIEWS

SOLID GOLD SOFTWARE'S

LPCalc

by Kim Schaffer

SAY YOU'RE LOOKING FOR some help to run your business. You have a spreadsheet and a wordprocessor, perhaps even a database. But how about something to help you understand how your business works? Something to show how to maximize profits or minimize waste? How about something to help you better understand that if you give Joe that promotion and upgrade your business machines, how those decisions will affect your business? A mathematical method that can help you is linear programming.

In linear programming, you describe the problem by defining the variables and constraints. For example, a catering business may want to expand. The company is run out of a private home. The company owns a van for deliveries and enough dishes and flatware to cater up to two parties of 30 people. Finding enough temporary help does not seem to be a problem. If the company plans to double its business, what will it cost?

I won't work it out here. Some of the variables are the cost of additional dishes and transportation. Additional full-time

labor may also be required. Some of the constraints are the number of guests you can provide for and the amount of food and service that a single van can carry. The timing of building up the business is also involved.

With a great deal of time and effort, it is possible to figure these things out using a spreadsheet. However, a program that can take some of the bite out of linear programming is *LPCalc*. *LPCalc* has the capability to input the problem easily and to examine the results, including printing pre-programmed reports. *LPCalc*, published by Solid Gold Software, comes on two disks in a professionally packaged plastic holder. The package also houses a 42-page manual complete with tutorials, command summaries, and index.

To use *LPCalc*, you must first set up the program. Entering a "p" while in the command mode sets up the parameters by requesting the number of variables (columns) and the number of constraints (rows). Figure 1 shows a sample problem consisting of three constraints and five variables. Notice the OBJ row and the RHS column; these describe the respective sum of the row or column. The "d" command toggles the entry module between row and column. Constraints can be added or deleted with the "c" command; similarly, variables with the "v" command. Block copying by either row or column is done with the "q" command. To keep all values positive, use the "n"

command; to use the transportation method, the "t" command. Various other commands make it easier to move around the display, list directories, and load data files, while others describe variables and constraints. After the data is entered, the "w" command writes the data file, and the "x" command starts the Linear Programming algorithm.

If there is a mistake, the program is reset. The data file can be reloaded and corrected. After the algorithm is successfully completed, the program enters the output module where the results can be manipulated, examined, and printed in pre-defined forms. The on-line help "h" command provides a listing of command summaries in either module. In the output module you can add units to the data with the "u" command, set the accuracy of the display with the "a" command, reverse a constraint ("c" command), or reverse an objective Function ("f" command). The print "p" command prints up to four reports: the Solution Variable Report, the Marginal Values Report, the Resource Use Report, and the Requirements Report. The sensitivity command "s" allows the user to vary the OBJ or RHS values within the ranges specified. The objective function is then recalculated and the new value is compared to the old. The "x" command is used by the output module to exit the module and clear the program.

Templates Supported

Templates are also supported in the output module. Once a problem is set up, a template allows the values to be easily changed without rewriting the problem. When you use the template command "t," the program stores an extended description and unit label for each OBJ and RHS cell. After the template is complete it is saved. The data file can then be loaded in the entry module. If the template is requested, the data is loaded with the OBJ row and RHS column cleared. Data can be entered only in the OBJ and RHS cells. As each cell is selected for data input, the additional information is highlighted for that cell. After all the data is entered, the problem is treated like any other.

There appear to be several shortcomings to the *LPCalc* package. The manual provides no introduction to linear programming, nor any discussion as to how *LPCalc* accomplishes linear programming. The

Figure 1: A sample problem.

| ROW | COL | X1 | X2 | X3 | X4 | X5 | X6 | X7 |
|-----|--------|----|----|----|----|----|-----|----|
| 1 | cotton | 2 | 3 | 3 | 1 | 1 | <= | 16 |
| 2 | silk | 1 | 1 | 1 | 2 | 2 | <= | 11 |
| 3 | wool | 1 | 1 | 2 | 3 | 4 | <= | 17 |
| 4 | OBJ | 30 | 35 | 40 | 50 | 55 | Max | 0. |
| 5 | VAR | n | n | n | n | n | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | | | | | | |
| 12 | | | | | | | | |
| 13 | | | | | | | | |
| 14 | | | | | | | | |
| 15 | | | | | | | | |

constraints=3 variables=5 row: col: n c
Commands: a b c d e f g h i l m n o p q r s t u v w x z

GOLD DISK'S

Professional Calc

by William M Frazier

tutorials expect the user to "fill in information" in several places, and the user can be easily lost. There is no discussion of when to use the simplex vs. the transportation method, although both are supported.

The program interface could use improvement. Novices to LPCalc may have trouble with the unusual interface. LPCalc tries to simplify the interface by using what most people are somewhat familiar with—a spreadsheet. Unfortunately, this also complicates LPCalc, as each cell may be assigned several different parameter values. For example, each cell can have a label, a value, and a unit assigned to it. If you use a template, some cells may also have extended labels.

Another thing that is difficult to get used to is LPCalc's method of using the return key to switch from data input to command input. These are two different modes, but they are not clearly identified. The entry module allows for setting up and entering the data, while the output module aids in manipulating, displaying, and printing the finished calculations. Some of the entry module and output module single-letter commands remain the same, and most letters are unique commands; however, some letters are used in both modes to perform different commands. Any incorrect entry locks the program up for 15 to 30 seconds.

LPCalc output could also use some improvement. The output module does not present the information in an easily comprehensible way. Editing can be very difficult after entering incorrect units even though the program may not be affected. LPCalc has no graphics support, and the information is not easily transferred to any other package for further study. I thought maybe I could get some help regarding how to better analyze the data, but no customer support was mentioned in any of the documentation.

The bottom line is that this program is not easy for those who do not have a good understanding of linear programming. A trip to a library may be a good idea before you consider purchasing LPCalc. A lot of patience in setting up your problems on LPCalc as well as studying the output will be necessary. But if linear programming can help you in your business, LPCalc can make the math easier for you.

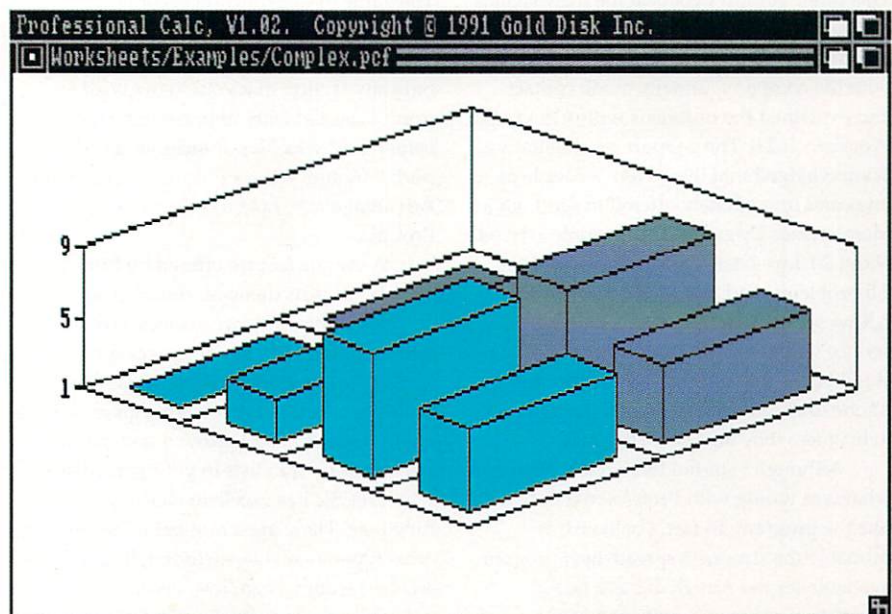
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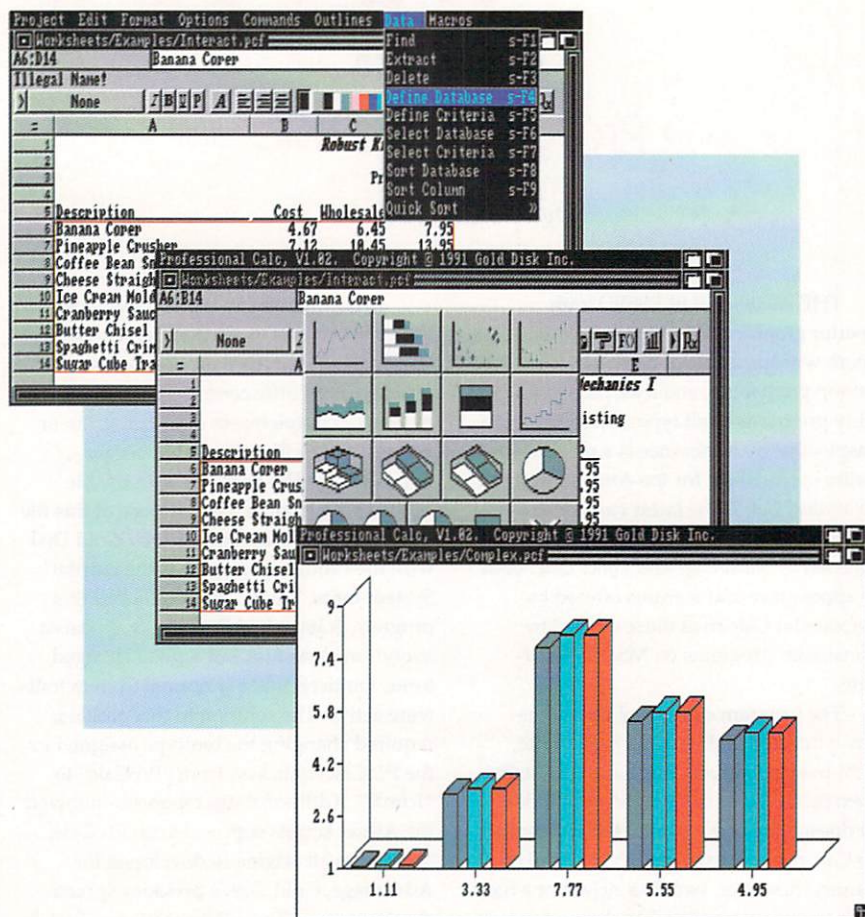
THE AMIGA IS BLESSED with superior graphics and video software; superb wordprocessing, database, and desktop publishing; and a surplus of fine utility programs of all types. What has been conspicuous by its absence is a reliable, top-quality spreadsheet for the Amiga platform. *Professional Calc* is the latest variant of Gold Disk's spreadsheet for the business user, preceded by *Advantage* and *Office Calc*. Both the appearance and features offered by *Professional Calc* rival those offered by mainstream programs on MS-DOS platforms.

The program consists of three non-copy-protected disks and an easy to use, spiral-bound manual. The manual contains an extensive Table of Contents and Index, but doesn't include a formal tutorial section. *Pro Calc* runs on any Amiga with 1MB of memory; however, two disk drives or a hard drive are recommended. The program is both Workbench 1.3 and 2.0 compatible, but owners of *Professional Calc* V1.0 who run 2.0 should obtain a maintenance upgrade, which is now available. Hard drive installation is very easy, with on-line instructions.

Unfortunately, it appears that Gold Disk's intent was to get the first release of this program out the door as soon as possible, with little concern given to the quality or completeness of the program or accompanying files. Problems began immediately. The first was with the file called *ProCalcFonts*. The purpose of this file is to assign the fonts supplied by Gold Disk with the *ProCalc* program, as the current System fonts. When I double clicked this program, it launched *ProCalc*. It appeared everything was fine, but when I changed fonts, I noticed that my normal System fonts were active. The solution to this problem required changing the tooltype assigned to the *ProCalcFonts* icon from "ProCalc" to "IconX". Additional discrepancies involved the ARexx scripts supplied with *ProCalc*. They were all originally developed for *Advantage*, Gold Disk's previous spreadsheet program. The ARexx port specified on each file was 'Advantage' rather than 'PCalc', as specified in the *ProCalc* manual. Even after this error was corrected, the ARexx scripts refused to function. Finally, the program was tested on an Amiga running Workbench 2.04. The program failed to display the File Requester consis-



A basic 3-D chart in Professional Calc.



tently and GURUed when attempting to display single range pie charts. I decided a call to technical support was in order.

My previous contacts with Gold Disk's Technical Support were quick and efficient. This time I couldn't get past the busy signals on the telephone. It took more than 50 attempts, spread over two days, to connect with the company. I finally made contact and explained the problems with ARexx and Workbench 2.0. The support representative acknowledged that there were a couple of bugs and immediately offered to send out a Maintenance Upgrade. The upgrade arrived about 20 days later. The upgrade fixed the 2.0 problems, and included a few simple ARexx scripts that operated correctly. The service was good, but I think Gold Disk should consider adding a few additional phone lines and staff to handle the increase in business they now seem to have.

Although I started this review stating what was wrong with Professional Calc, I do like the program. In fact, I believe it is probably the strongest spreadsheet program available for the Amiga. It has a fairly complete tool bar across the top of the window that puts the most commonly used features just a mouse click away. It has many

different font typefaces and sizes. Additional text control is provided by using style tags, similar to those found in your favorite word processor. The outline function allows you to hide or reveal sections of your spreadsheets. The value of this function becomes obvious when you consider that you can have sensitive data in your spreadsheet and easily hide any section that you do not wish to print. ProCalc easily imports and exports Lotus1-2-3 *.wks files. It includes an ARexx port, although ARexx programs written for Advantage may not be compatible with ProCalc.

A unique feature offered by Professional Calc is its database function. In addition to being a spreadsheet, ProCalc offers the ability to define ranges of a spreadsheet into multiple databases, with multiple selection criteria. This gives you the ability to search, sort, extract, and manipulate data stored in lists in your spreadsheets.

ProCalc has excellent charting functions. There are a number of different chart types available, including line, 2-D and 3-D bar, scatter, high/low, area, column, volume, step, and pie charts. Most attributes for your charts are user definable, such as the font type and size, color, and placement

of legends, labels, and axis. Color dithering allows you to display up to 136 colors on the screen at one time, more than you should ever use in any one chart. Charts can be saved in a number of different ways. You can save them as a normal IFF file for use in most painting programs, as a CAD file for use in a structured drawing program such as Aegis Draw Plus or Professional Page, or also as a ProDraw file for use in both Pro Draw or Professional Page. You can print charts produced by ProCalc in both normal and enhanced resolutions. Enhanced resolution takes somewhat longer to print, but the results are well worth the extra time. You can also output your charts to a PostScript device or as an encapsulated PostScript file to be read into an EPS supporting application.

There are a few things I would really like to see added to ProCalc. One is a circular reference indicator on screen. The manual makes reference to the fact that circular references should normally be avoided, and can be very difficult to track down on a large spreadsheet model. It would be so much easier if the program would warn you of the fact that you created such a situation. I would also like to see a built-in, context-sensitive help facility. Too few Amiga programs include help information as part of their programs. The only help offered in ProCalc is a line above the Tool Bar called a Message Line. The comments offered here are often too cryptic to be of any help. Lastly, ProCalc offers many font typefaces and sizes. Unfortunately they are the usual collection of bitmapped fonts common to most Amiga programs. I would like to see scalable typefaces, such as those used in Professional Page, PageStream, or Final Copy.

Gold Disk seems to have released this program before it was actually ready. The polish of a mature program is not apparent. However, the program is full of features, and for the most part delivers what is promised.

•AC•

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CO-TRONICS ENGINEERING

KB-Talker

by Daryell Sipper

COMMODORE DOESN'T HAVE the greatest reputation within the computer industry. Its tendency to avoid industry standards has frustrated more than a few people. Remember the A1000 parallel port? How about the A1000 keyboard? The A2000/A3000 keyboard is much closer to the AT 101-key industry standard, but again Commodore misses the mark.

Many of us use MS-DOS computers as well as Amigas, so we are familiar with the AT-style keyboard. I like the AT-style keyboard for several reasons. Tactile keys are a joy to use. I like the separate PgUp, PgDn, Home, End, Insert, and Delete keys. I like the three indicating LEDs, the F11 and F12 keys, and the PrintScr key. The Pause/Break key is useful too. I've often found myself thinking about how I would redesign the Amiga keyboard. It would have to support the Bridgeboard (IBM). A-Max compatibility is also a consideration, and let's not forget Unix.

Co-Tronics Engineering of Glendale, Arizona, has evidently pondered this

problem and has introduced a unique product to the Amiga market called the *KB-Talker*. KB-Talker is an attempt to allow us to use AT keyboards with our Amigas.

KB-Talker can be used by all Amiga models, including the A1000 and A500. Your AT keyboard connects to the KB-Talker adapter, which connects to your Amiga's keyboard port. Older versions of KB-Talker are designed to be used with Amiga keyboards, but newer versions will not have this pass-thru option. The A500 version requires some extra installation work. The adapter does have barcode/UPC reading capabilities as long as the wand is an integrated part of the keyboard, or the wand converts the raw data into keyboard information.

Three modes of operation are available. A switch on the adapter is used to change the operation. The first mode is a pass-thru mode. This allows you to use your standard Amiga keyboard. You use the other two modes by flipping the adapter switch to Convert. In this position you use the AT

keyboard, using either the Amiga mode or the IBM mode.

KB-Talker does some keyboard remapping and keycap labels are included to ease the transition of using keys in new locations. The F11 and F12 keys are remapped, as well as the Alt and Ctrl keys, the Caps Lock key, and the three "system" keys. There is no help key nor Amiga command keys on the AT keyboard of course. The F11, F12, and the two Alt keys get remapped for those functions. That means the F11 and F12 keys aren't used as function keys, even in the IBM mode. The PrintScr key is used as "(-NumLock," the Scroll Lock key is used as "(-Scroll Lock," and the Pause-Break key is used as the Mode Toggle.

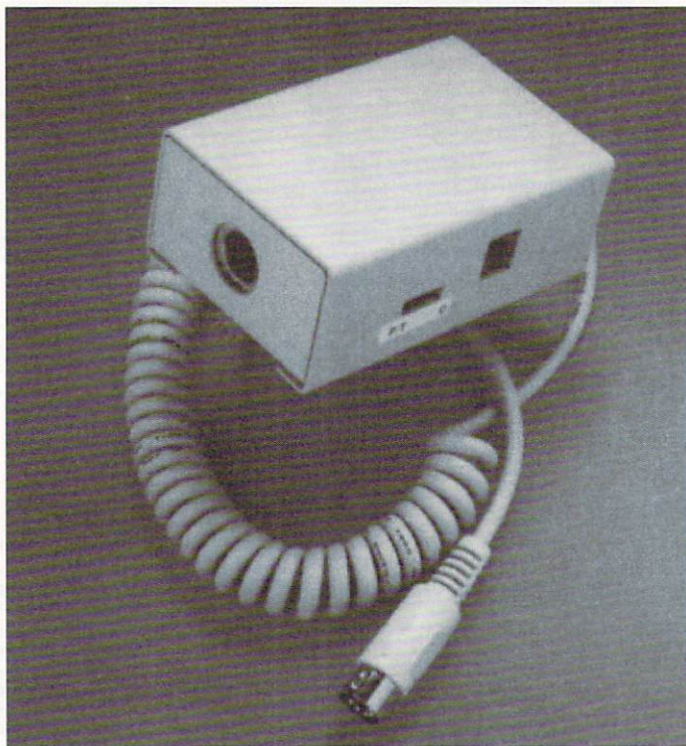
In the normal Amiga mode, the Caps Lock key is the Ctrl key, the two Alt keys become the Amiga command keys, and the F11 and F12 keys become the Caps Lock and Help keys. This mode most closely resembles the actual Amiga keyboard.

In the IBM mode, the F11 and F12 keys are the Amiga command keys while the Caps Lock, Ctrl, and Alt keys all perform their expected functions.

To add to the initial confusion, KB-Talker requires you to reset your computer differently. Regardless of which mode you're in, you reset your entire Amiga by using the F11, F12, and Caps Lock key, and reset your Bridgeboard with the normal Ctrl-Alt-Del sequence. The location of Ctrl and Alt keys change, however, depending upon which mode you're in.

The user manual consists of three 8-1/2" x 11" pages. It looks much like a typical engineer-written, in-house desktop publishing effort. In other words, it's poorly written and looks amateurish. It definitely makes KB-Talker look as if it were assembled in the garage. There's nothing wrong with that type of assembly process, but the customer should never know or suspect it.

I first tried the pass-thru mode using my A3000 keyboard and encountered no problems. I then used a keyboard from an industrial PC system. Resetting the Bridgeboard in IBM mode was different from what the keymap showed. I did get it to work with the right Ctrl-Alt pair, but not with the left pair. When I used the left Ctrl-Alt pair, I sometimes got a Bridgeboard crash. It usually took several attempts to successfully reset my Bridgeboard. My Amiga-M and Amiga-N screen toggles wouldn't work after



a Bridgeboard reset. I never did get the Bridgeboard to reset while in the Amiga mode. The user manual warns of "system" keyboards not always being truly AT-compatible. I can't say I wasn't warned, so this small amount of confusion didn't bother me greatly.

Next I tried an Epson keyboard. Everything was working fine until I used my Bridgeboard. I again couldn't get the left Ctrl-Alt pair to reset my Bridgeboard, but the right Ctrl-Alt pair did work. Not a big deal, but my Amiga-M and Amiga-N toggles stopped working again. I started to suspect a public domain program called *KeyMenu*. *KeyMenu* allows me to open Amiga pull-down menus using the Alt key in the same way MS-DOS programs do. I was using the left Alt key to open my Amiga pull-down menus. I've never had any problems with this program before, but I thought I should check nonetheless. I turned *KeyMenu* off and started over. Everything on the Amiga side worked fine, but I again ran into the same problems whenever I reset my Bridgeboard. I could now use the left Ctrl-Alt pair during a keyboard reset and my Bridgeboard would always reset, but I always lost my Amiga-M and Amiga-N toggles. I also lost my Amiga hot-keys. I got garbage when I attempted to write something in a Shell. My up and down cursor keys starting acting like screen-up and screen-down keys while using Amiga WordPerfect. The only way I could reset my Bridgeboard without getting all these problems was through the PCHard utility. By this time, my opinion of KB-Talker wasn't high. I was going to look for a third keyboard, but I lost my interest. Once I was snake-bitten, I spent too much time looking for problems and working around them rather than being productive.

The product is advertised as plug-and-go. I didn't find it to be that way. Granted, the manufacturer doesn't guarantee all keyboards to work and I tried only two keyboards. My immediate question, however, is how does a potential buyer know what's compatible and what isn't? A list should be included. Luckily for me the keyboards I used were borrowed, but what if I had purchased a keyboard and found it didn't work? Even if I had gotten the Bridgeboard resets to work, KB-Talker still wouldn't excite me. I never became comfortable with the remapping of the keys. The F11, F12, PrintScr, and Pause/Break key are all unused in their original functions.

Part of the reason I want to use an AT-style keyboard is to use the full keyboard while using the Bridgeboard.

Co-Tronics has the right idea, but the wrong approach. KB-Talker is an acceptable first effort. For all the design effort that was probably put into it, however, I'm disappointed. The real answer is a new keyboard. I'd like to think that designing an AT-compatible Amiga keyboard wouldn't be difficult. The layout of the keyboard would be simple. Start with a standard AT keyboard layout. The two Amiga command keys could be placed in the empty spaces between the Ctrl and Alt keys. Squeeze the three indicating LEDs closer together and put the Help key next to them. A few things would be necessary to make the keyboard universally appealing. Add the additional 12 functions on the left side of the keyboard. Color code the Shift, Alt, and Ctrl keys with the "standard" WordPerfect colors. Add the Macintosh Option and Command key symbols on the Alt and Amiga keys. Use keycaps that can be relocated to construct alternate keyboards like the Dvorak keyboard. Don't forget tactile keys for that crisp, responsive feel. Deluxe models could include barcode translation, 24 "PF" keys for mainframe interfacing, and even a calculator. All of this would undoubtedly require a special keyboard ROM, and patched keyboard drivers and libraries, but a similar effort must have gone into designing the hardware and internal ROM for KB-Talker.

KB-Talker is a good engineering exercise. Unfortunately, I don't find it useful. The standard Amiga keyboard already does everything that KB-Talker does. The extra work of familiarizing myself with new keycap locations, the unattractive look of keycap labels, and the extra cost of the adapter and an AT keyboard makes me feel I'm better off staying with my Amiga keyboard. KB-Talker is a noble effort, but it falls short. I would have been more enthusiastic had an Amiga/IBM/A-Max compatible keyboard been designed.

•AC•

KB-Talker
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DISPLAY SYSTEMS INTERNATIONAL'S

Hard Disk Organizer

by Kim Schaffer

IN THE BEGINNING, there was only a command line type of interface, a blank screen with a single prompt, waiting for you to remember what comes next. Then along came someone with the idea that the screen did not have to be blank. You could make a menu, even go so far as to make batch files so you could select items from your menu.

Then along came the Graphical User Interface, GUI. With the GUI you don't need menus—just click on the icon and away you go. That's fine if you only have a few programs, but your Workbench can quickly become crowded. So how about a GUI organizer? There are too many sizes and

shapes to organize the icons. So standardize the icon, maybe just give it a button, and organize by color as well as function. Good idea, but you really need it if you have a hard disk, so call it a Hard Disk Organizer.

That's what Display Systems International, Inc. decided to do with *Hard Disk Organizer*. It provides a quick and easy way to get around the GUI icons and the CLI memory tests so that you can organize your work. The interface is extremely simple, an array of buttons, all easily labeled and colored. Who needs this kind of program? Well DSI has several different users in mind: the novice just starting out to set up a system; the experienced user who has hundreds of applications and wants to organize them with a flexible menu system; organizations that want to use password protection to limit access; developers who wish to compile programs and type error files, using HDO to save time and repetitive keystrokes; and even home Amiga users who want a simple menu so that their computer is easier for the entire family to use.

There are definite advantages to using HDO. Commands, such as assigns, can be performed before and removed afterwards

when you select an application. This allows the startup sequence to execute faster and be more understandable. It is also faster and easier to change and test the HDO button rather than change the startup-sequence and restart the computer. Not having to repeatedly find an application is also a distinct advantage. No more searching through endless directories, sometimes for both the application and the working files. With Workbench 2.0, this becomes much less of a problem, as you can leave applications and their associated project files on the Workbench. Even then, however, the application must easily support the use of icons. Finally, you can use color coding to easily identify and group applications and projects. For example, select all of the graphics applications and projects to be blue. Or maybe the things that have to get done by tomorrow should be red—it's up to you.

To use HDO from the Workbench, double click the HDOMenu icon. A screen will appear as shown in Figure 1. The information inside the box can be changed. Clicking outside the box, and the HDO menu appears. Figure 2 is an example of the main screen. The program uses three basic operations: right click, left click, and shift left

EASYSRIPT! SOFTWARE'S

Mark's MathLab

by Rick Manasa

I CAN STILL REMEMBER the day I lost touch with math. It was in my junior year of high school. I was in Brother Raphael's algebra class. We'd moved into territory so alien that I knew I needed help fast. I made a mental note of the last thing that made sense in his lecture and waited for class to end so I could get a better explanation of what followed. It was during that explanation that I realized algebra was a foreign language. Since I was already in my third year of Latin, I couldn't see adding another foreign language to my class load, so I mentally dropped out. I've always thought this was sad, because I enjoyed my sophomore year geometry so much; but then I always viewed geometry as something between puzzles and

art, so go figure. I guess I expected algebra to be like geometry only, you know, better in some way.

Maybe I'd have better handled the twists and wiggles of algebra and the math to follow if I'd had something like *Mark's MathLab* to work with. Mark's MathLab is a numeric computational tool, just right for exploring formulas in a graphic way. The program comes on two non-copy-protected disks and is hard drive installable. You'll need Workbench 1.3 or 2.0 plus at least 1MB of memory. Mark's MathLab will make use of any co-processor chips and accelerators you may have installed, but doesn't require them.

This is not a program for the rank amateur, as the explanations in the manual assume some basic knowledge of geometry and algebra. Still, anyone with a high-school or college-level math background should feel right at home with Mark's MathLab and what it is capable of doing. It's capable of doing quite a bit. You can zoom in on graphs in either Cartesian or polar planes, generate wire frame revolutions like a CAD program, and save your results as IFF files. The companion program, *New 3D*, does all these

functions and plotting in three dimensions instead of two. Those of us without a math background will probably enjoy fooling with numbers, playing with the Lab just as you would examine fractals and Mandelbrot sets, from a purely exploratory and discovery perspective. That's not all bad either. The manual opens with a brief history of analytical geometry and an explanation of coordinate systems. The brief (15 pages) documentation focuses on which requesters expect what values, which constants, variables, etc., are supported, and a short description of each math module.

Mark's MathLab can draw 2-D graphs, 3-D wireframe solids, or display a table of values. You can change the viewing orientation, just as in a CAD program. New 3D makes a wireframe rendering of functions with two variables. You can display your results in either perspective, orthographic, or contour mapping modes. All results were calculated and displayed reasonably quickly on my A3000. Both Mark's MathLab and New 3D provide online help for each module when you hit the Help key. You can save all screens as IFF files with the included *ScreenX* utility by Steve Tibbett

click, to select, edit, and move the buttons, respectively. This provides a quick way to set up and edit programs and files that you are working on. Each button can have a password, a color, and up to eight lines of commands associated with it. There are two special commands for HDO scripts, *pause and *exit; *pause waits for the user to select the HDO icon before opening the HDO main menu screen; *exit closes the HDO program after executing the script.

In addition to the buttons, there are four icons along the top of the screen, along with the title. The title can be changed; it doesn't have to be the title I selected. Clicking the leftmost icon will show you the opening screen again. The next icon, Sleep, closes the HDO screen, releases most of the memory, and puts a little HDO icon on the parent screen. The next icon to the right selects the edit requester for the HDO program. From the main requester window you can select a password, choose button and text colors, and turn on and off password and screen burn-in protection. After setting up HDO, you are ready to use it. It does not require Workbench to run.

HDO can be used in place of the Workbench. By substituting HDO for the

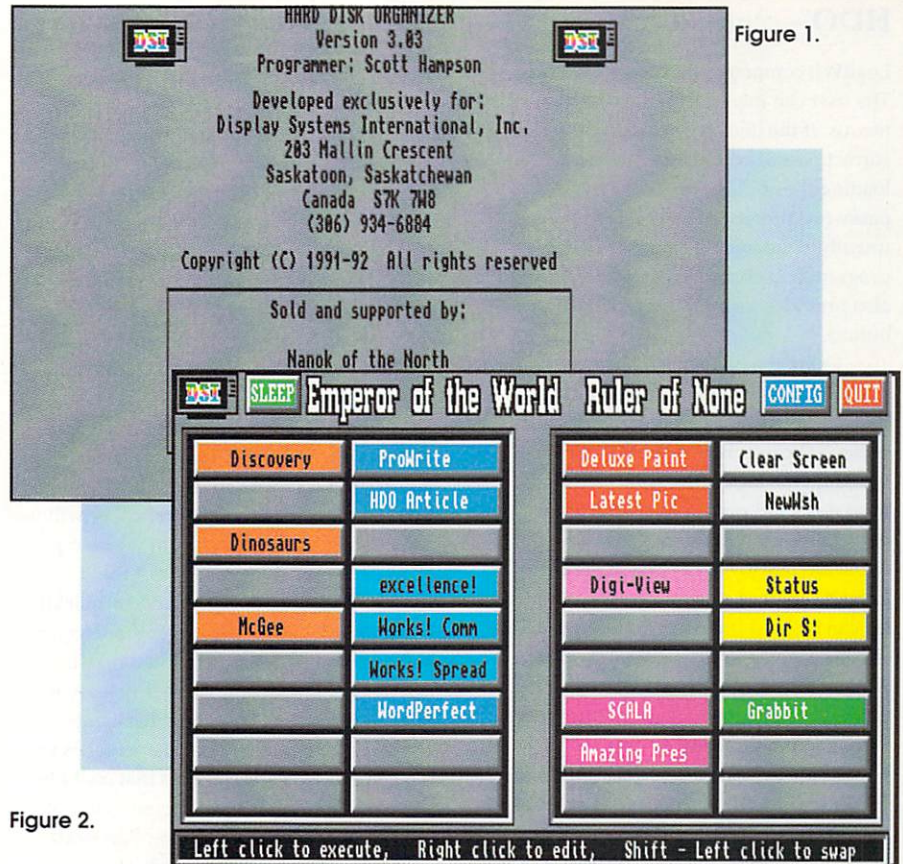


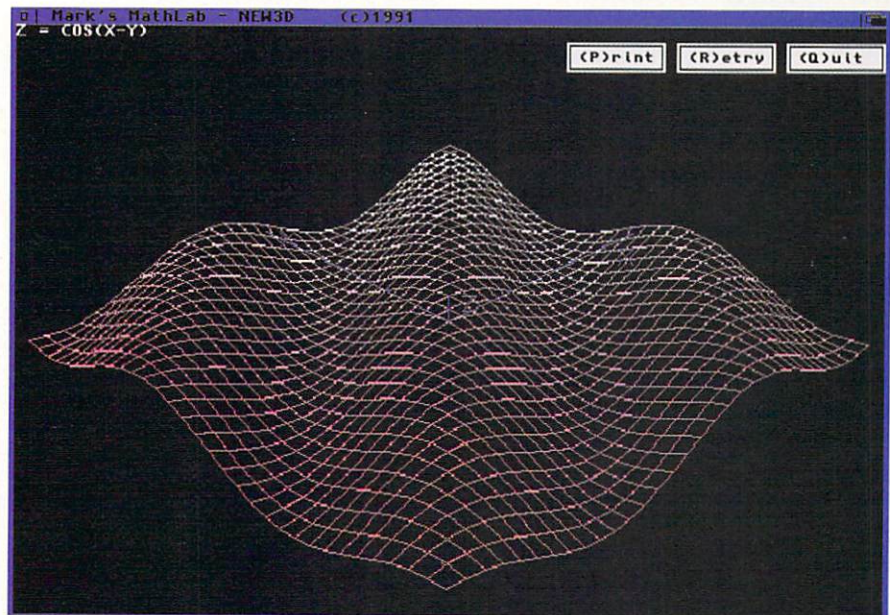
Figure 1.

Figure 2.

of VirusX fame. You can also print your results directly from Mark's MathLab.

Mark's MathLab does what it claims to do, but not without some hitches and glitches. I shudder to think how Mark's MathLab would function on a stock 68000 machine. The program is a major league processor hog, slowing down any other functions and programs you may have running at the same time. This in itself was hard to determine because it is very difficult to multitask with Mark's MathLab. Left-Amiga M and N usually move me from screen to screen, but Mark's MathLab didn't want to share my attention with anyone else. Clicking the front-to-back gadget did bring WordPerfect to the front, but the screen colors were changed to those of Mark's MathLab.

There aren't many of the Amiga-specific features we've come to expect from most programs released these days. The only menu item is the Quit option. Except for the use of the Help key to provide online help, all selections must be made with the mouse. It's impossible to get back to the main menu from a module unless you successfully complete a graph. Then you can select Quit,



New 3D makes a wireframe rendering of functions with two variables.

HDO—continued

LoadWB command, HDO will load quickly. The user can then select from the button menus. If the item is password protected, the correct password must be entered before loading the application. HDO also has password protection available to prevent unauthorized exiting from the HDO program and changing of any menu items. It also provides a separate password for each button.

Using the passwords can slow down, if not stop, someone from running programs that are not authorized. In order for the password protection to have a chance of working, the user must set up HDO, the hard disk, and programs so that there are no backdoors. Only programs that will not allow anyone to change the parameter files of HDO and not allow a new task to be spun off can be used if the protection is to work. As this is almost impossible, I do not recommend the password feature as entry protection. The manual gives little help or discussion in this area.

There are two resolutions supported by HDO, low and high. HDO does not handle these resolutions in the same way. For example, if the screen is in low resolution, there will be a full screen of 4 x 9 buttons for NTSC or 4 x 12 buttons for PAL. However, if the screen is set to high resolution, instead of having twice the number of buttons, HDO

will use half of the screen to display the same number of buttons. If HDO has opened an output window, the window will cover the rest of the screen.

While HDO is limited to 36 or 48 buttons, it is possible to have multiple HDO setups in different directories. In this way you can select the configuration by selecting which directory HDO starts from. HDO can even change configuration by having a button assigned to HDO starting from a different directory. The program actually opens a new HDO before closing the old one.

HDO uses a CLI interface to display any output, such as a directory, or any error messages. HDO will open a CLI window if you are starting from Workbench, or will use the existing CLI window from which it was spawned. Unfortunately, one of the drawbacks is that the CLI window quickly becomes full and confusing. If the screen is short, the information requested may be scrolled off the screen. There is no easy way to clear the screen built into HDO, but writing a batch file to clear the screen is easy.

There are several things that could be done to improve this product so that it fits the needs of a larger audience. Password protection is of limited value because so many programs allow the user to open a new CLI window. Another possible problem is that after selecting a program it is unclear whether HDO will restart while the selected

application is running, or if HDO will wait for the user to quit the application. Almost any application can be started with the Run command, allowing HDO to restart before the application has ended. However, some applications start a separate task allowing HDO to come back on line, consuming a little more memory, and possibly confusing someone not familiar with the Amiga's multiple screens. The greatest drawback that I find, however, is the absence of a file requester or other input without having to rewrite the macro.

DSI seems to have a program to meet most, if not all, of the requirements for the users they are targeting. HDO even allows several people to have setups specific to their needs by programming a button to identify custom menus. I have twisted this program every way I can think of. It's very flexible, multitasks very well, and I have never had it crash. That's definitely a rarity in itself, as well as extremely important for this kind of program.

•AC•

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MATH LAB—continued

which in this case doesn't quit the program, and you will be returned to the main menu screen. While the graphs rendered by the formulas can be stunning, this is more a result of the formulas themselves than a tribute to the use of the Amiga's graphics capabilities. I'm afraid the displays produced by Mark's MathLab would look just as good on an MS-DOS machine.

Even in its current state, Mark's MathLab would benefit from some small enhancements. I'd like to be able to display and save the graphs without the x-, y-, and z-axis lines. There's plenty of room on the main menu screen to display all the supported functions, constants, variables, and operators. This would be more immediate than clearing the screen and displaying these items separately as part of the Help function.

Some of the results produced by Mark's MathLab are very beautiful. I can't help feeling that if I knew a little more math, I

could produce some truly amazing graphics with this program. This could be a tremendous teaching aid in the classroom. Imagine being able to twiddle with exotic formulas and then display the results graphically seconds later. I'm not sure I would have understood algebra any better with Mark's MathLab, but I certainly would have been more interested. Math educators should take note and explore the possibilities offered by this program. Mark's MathLab could make the difference between losing and retaining the attention of the occasional bright lad who'd rather solve puzzles than memorize formulas.

•AC•

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WShell 2.0

by Merrill Callaway

IN THE WORDS OF William Hawes, its author, *WShell 2.0* is a "much enhanced but highly compatible alternative to the Amiga's built-in Shell." In my opinion, "highly enhanced" is an understatement. The *WShell* manual has over 100 pages packed with power features, and we can only scratch the surface here. *WShell* is as deep as anyone would care to go, yet its defaults thoughtfully configure all the areas general users need. In my opinion, *WShell* has not received the recognition it truly deserves. William Hawes is best known for developing *ARexx*, and there is simply no better shell environment for developing and running *ARexx* programs than *WShell*. Programmers in *ARexx* probably own and appreciate *WShell* already, but there is more to *WShell* than smoothly running *ARexx* programs.

Amigans used the old Command Line Interface (CLI) program as seldom as possible, and with good reason. The CLI was clunky and unforgiving. Later came the Amiga Shell, in more or less its present form, as a CLI sporting a command history and some line editing features to make it easier to input commands. The Amiga Shell is now easier to use, but still rather stiff and insipid, even in System 2.0. What I cannot understand is, why did Commodore make *ARexx* standard on the Amiga, and yet ignore the brilliantly implemented *WShell* as the standard shell? Never mind. Installing your own copy of *WShell 2.0* gives you a command shell that brings out the real power of your Amiga.

What Makes a Good Shell?

A good command shell is essential to any sort of intermediate or advanced use of a personal computer. No matter how good your windows and icons are, someday you will need to type in some sort of command in a console window (as shell windows are called). A shell is only as good as its ability to facilitate your typing commands, launch programs, and help you find your way around directories. *WShell* gives you unprecedented power to navigate directories and to input commands. Let's look at a few of its features.

FComp, the File Completer

There is an attached utility called *FComp* which (as if by magic) types the rest of the path you want when you press the escape key. Suppose you have a directory called *Sys:Utilities/MyPgms/Graphics/*. If your current directory is *Sys:*, rather than type in this long directory at the Amiga Shell

prompt, in *WShell*, you just type *U* and hit the Escape key. *FComp* "knows" you wanted *Sys:Utilities* because of the first letter, and automatically expands your typed line to *Utilities* for you. There is no need to use a *CD* command. Entering the name of a directory suffices. Now, you type */M* at the end of the string, press the Escape key a second time, and *FComp* expands your input line to *Utilities/MyPgm*. You proceed as before (type */G Esc*) until *FComp* completes your directory path (in only 7 key strokes instead of 26). If there is more than one match for your input string, then each press of the Escape key brings up a new match. You may type in more letters to narrow the search, and you may do this dynamically even while the program is busy searching; it grabs your new input on the fly. If no match is found, then your screen flashes. You may configure more than one completion key for *FComp* to do different or more complex searches. *FComp* is fully configurable to suit the most abstruse tastes of power programmers, but its defaults already configure everything I need. *FComp* alone is worth the price of admission, but there's more!

A Console Window Scroll Bar!

This is such an obviously handy feature, I'm amazed no one developed it before. You never have to worry about opening a small *WShell* window and

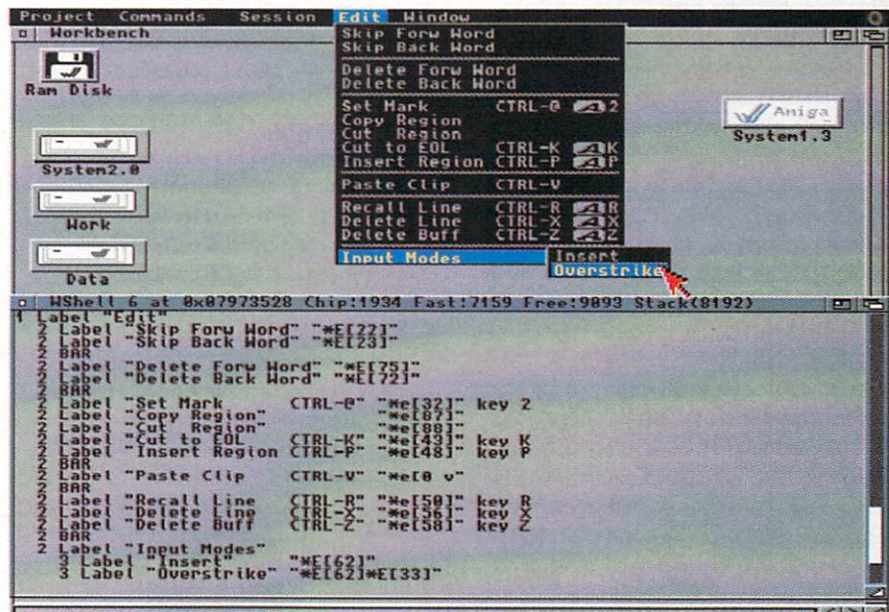
scrambling to hit the space bar before that important information scrolls out of sight. Every *WShell* window has a scroll bar on the right side so you can look at the entire session at your leisure.

User-Defined Menus

The new *WShell* has the option of attaching user-defined, pull-down menus up to three levels deep. You can also call different menus for different shells. The menu configuration text files are kept in the *S* directory, and support ANSI escape sequences. Menus can run programs, change the directory, or enter commands as if you typed them at the prompt. There are plenty of examples of working menu configurations so that you can make your own custom menu very easily. The menus also support keyboard shortcuts.

Application Windows Support

Under AmigaDOS 2.0, by setting appropriate tooltypes in icons, you may drag an icon and "drop" it in a *WShell* window,



A Workbench 2.0 screen showing a *WShell* and the attached default menu. The menu file was displayed in the *WShell* window using the "type" command. The output was scrolled to the section showing the menu configuration for the part of the menu displayed. Notice the title bar information.

and it will execute according to its tooltype. Text icons, for instance, can start a text file reader to read their file, or an ILBM file icon can start a viewer program to display an image. There are two general tooltypes, the execution details of which are managed by the FComp program configuration file. Examples are included on disk. This is a useful bridge for Workbench users.

Transparent AReXX and Real Piping!

WShell implements real command piping (as opposed to the clumsy "piping" by the Amiga Shell). What is piping? It is feeding the output of one program into another as input—simple in concept, difficult to get to work properly. WShell includes some handy filters, which are pipeline programs designed to alter data on the fly. One filter program that I've found indispensable is *tee*, a program that splits the output of a program so that you can save it to a file and look at the output in the WShell console window, simultaneously. WShell's default uses the "|" character as the pipe character. Therefore, to save the output of, say an AReXX program "pgm.rexx" to "ram:out", you only have to type at the prompt "pgm | tee >ram:out" and you'll see the normal output on your console, but it's saved in the file, too. Notice that you don't need to use rx before an AReXX program. Each WShell is an AReXX process with its own host application port. AReXX programs run transparently in WShell, just like the commands in your C: directory.

Flexible Aliases and In-Line AReXX Programs

Aliases are abbreviations for longer commands. WShell has a complete facility to make both global and local aliases. Furthermore, you may create in-line AReXX programs and then assign them alias names. They execute just like commands. An in-line AReXX program is a whole program on one command line. It starts with a double quote ("), and the AReXX instructions are separated by semicolons (;).

Programmable Prompts and Titlebar, Command History, Line Editing

Sometimes you need information about where you are, how much memory you have left, the stack size, etc. WShell lets you program both the prompt and the titlebar of the console window to display directory, memory, stack size, return code, etc., to your own specifications.

WShell keeps a complete command history, as well as a session history. Line editing is possible even upon input lines that

a program prompts you for. There is an extensive set of (re-configurable) keyboard line edit commands, and search/save/delete options for the history buffers. The Display Handler supports variable expansion and backticked commands, too. It's also easy to launch a background process with WShell, or run a specified program at shell startup.

Resident and Built-In Commands

WShell maintains a private resident command list in addition to the AmigaDOS resident list, both transparent to the user. Built-in commands, such as pushing and popping directories, are also maintained as part of the WShell program. You may call up a list of resident and built-in commands with the RESI -list command.

The Display Handler

The history and line editing features are handled by the display handler, but so is the console window. A program called DHOpts is used to specify the window attributes—everything from which side the scroll bar is on, to the dimensions of the window, and the font used. The option I really like is the S* option, which makes WShell open on the front screen, private or not. By means of a hot-key program to run a CLI (*PopCLI*, by Software Distillery), I can open a WShell anywhere!

Snap

Snap is a program William Hawes didn't write, but he includes it in WShell. Mikael Karlsson's *Snap* v1.61 is a wonder! You can snap text or graphics anywhere at all, even from private custom screens. This "global cut and paste" feature is indispensable. I grab all the screen shots for my articles with snap. I snap addresses off letters in *WordPerfect* to send via AReXX and WShell to my envelope print program. I use it to input text into *PageStream 2*. I use it every day. The "cut and paste" for the Amiga Shell is pitiful by comparison.

Conclusions

If you use a shell, WShell is a great one to get; it's perfect for the Amiga. Programmers will love its configurability, and beginners and lazy typists will find the File Completer indispensable.

•AC•

WShell 2.0
Price: \$49.95
William S. Hawes
P.O. Box 308
Maynard, MA 01754
Inquiry #206

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Math Programs For The Younger Set

by John Steiner

ONE OF THE JUSTIFICATIONS for buying a personal computer is that it can help with the children's education. As a result, there are several software developers who create products that are written specifically for the educational market. This review examines two products that are targeted toward elementary age children. *FlashBlaster!* from EasyScript! Software and *Mathasaurs* from CanCor are both games that attempt to provide an entertaining pastime while improving math skills at the same time. One of the games is much more successful than the other at achieving this educational objective.

FlashBlaster!

FlashBlaster! is a simple shooting game, with a single screen that depicts a typical carnival-style shooting gallery. On the left and right hang teddy bear targets. The center of the screen has several rows of objects such as ducks and targets that move left or right, up or down. Each object has a number on it, and when the program presents a math problem, the player calculates the answer and shoots at the appropriately numbered target. For example, $7-3=$ would require the player to click on the teddy bear that has the number 4 on it. Answers with two digits require "shooting" the tens digit first, then the ones digit. The problem $23 + 4 =$ would first require clicking on an object numbered 2, and then an object numbered 7. The program provides appropriate audio feedback upon hitting the target, which gives the program a real "shooting gallery" feel. Also, one feature that is especially helpful for younger players is that the program counts near misses, though it provides extra feedback when the player makes a direct hit.

Scoring the game is simple; you gain points for getting a right answer, and you lose points when you get a wrong answer. Probably the game's weakest point educationally is that its only visual response to a correct answer is to increase the score, and that reinforcement quickly disappears as the next problem appears. A wrong answer also does not have a visual distinction except for a reduction in the score. An educational program should make it quite clear to the student that the objective of his or her learning has or has not been achieved.

You have the option to work on the big four math operations—addition, subtraction, multiplication, or division. You may select any of three levels of difficulty. You can also

choose to have the computer generate numbers up to 99. The default values for the two numbers presented is 0 through 9. The only problem with this game that causes me a real concern appears to be a bug in its input algorithm. While it is possible to tell the computer to use numbers up to 99, it can't seem to handle a result properly when that number happens to be larger than 100. For example, you request the program to generate numbers between 0 and 99 and choose addition practice. If the two random numbers generated add up to less than 100, you simply shoot the two appropriate digits. If, however, the two numbers happen to generate a three-digit result such as 125, as soon as the student "shoots" the 1 object, the program immediately marks the problem wrong and moves on to the next problem. It occurred to me that the problem might be that the user must ignore the largest digit, so I tried to enter the two least significant digits. In this example, I would shoot at the 2 object, and then the 5 object. That didn't work either. In short, the program apparently cannot handle any result that is larger than 99. This is not a major problem if you help the student select a range of numbers; however, there is no warning in the documentation that the problem will occur. That fact, coupled with the program's weak feedback, might cause a student to have a problem understanding what is wrong. The fix is simple enough. For addition problems select an upper range for both numbers of no more than 49, and for multiplication problems use the default values. Frankly, this bug is inexcusable. It would be simple enough to trap numeric results that do not fall in the required range for the program.

Mathasaurs

Mathasaurs is an enigma for me as an educator. I don't really understand what it is trying to teach. If it is supposed to help students learn math, it fails miserably. If it is supposed to be an arcade game, then it is moderately successful. The premise of the game is that two planets are in competition for survival. One planet's population invades the other, and captures the Babysaurs. The hero, Uno, must save the trapped Babysaurs. The hero must avoid a laser attack and find the cages that contain the trapped Babysaurs. The hero must also shoot the cage doors open and hug each of the frightened creatures. Next Uno must contend with a fierce and wicked dragon.

The arcade style scrolling screen keeps Uno visible as the planet scrolls beneath him or her. You can use the joystick to position Uno left or right, forward or back. You use the fire button to shoot at the laser blasts and other enemies, as well as to shoot the cage doors open.

The only reference to math that I could

find in the operation of the program is that simple math problems are displayed on the surface of the planet, and if Uno flies over them and scores a hit, he scores 100 points (the lowest possible way to score points). Once Uno flies over the problem, a digitized voice speaks the answer to the problem presented. There is no apparent way to provide the answer to the problem beforehand, and there is nothing in the game literature that mentions any special handling of these number problems. The only reference in the manual to the math problems is in the section on scoring. The scoring table indicates that math problems are worth 100 points. The program package description reads "An action adventure game that educates young children in addition and subtraction." The authors recommend the game for children 3 years of age and older. Evidently the authors of the program feel that the student will remember the answers to these math problems by associating the spoken answers with the problems seen as Uno flies over them. If I have missed something in the educational application of this game, I have to apologize to the authors; however, the documentation does not mention how these problems are designed to educate. I demonstrated this program to other educators who also came to the same conclusion that I did. This is an arcade game, pure and simple, and as far as I can tell, the developers should advertise it as such.

System Requirements

Both games operate on basic Amiga systems. *FlashBlaster!* requires 1MB of RAM, and is easily installed on a hard disk. *Mathasaurs* requires a joystick. *Mathasaurs* also has a two player option, which requires you to install a joystick in the first mouse port before turning on the computer. *Mathasaurs* is *not* Workbench 2.0 compatible.

FlashBlaster!

Price: \$49.95

EasyScript! Software
10006 Covington Dr.
Huntsville, AL 35803
205-881-6297
Inquiry #235

•AC•

Mathasaurs

Price: \$24.95

CanCor
14 Garrard Road
Whitby, Ontario Canada L1N 3K3
416-434-4247
Inquiry#236

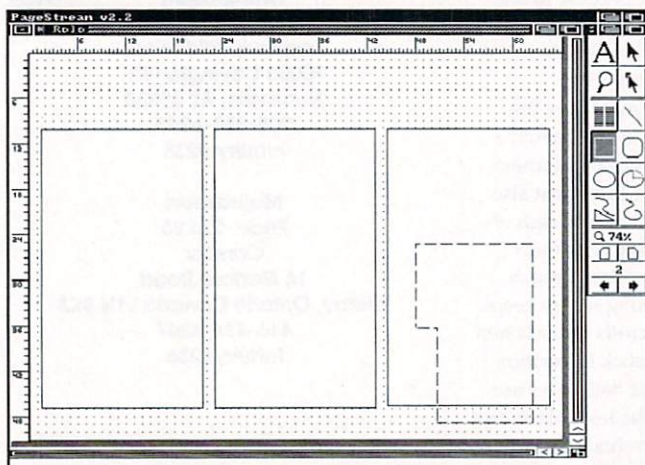
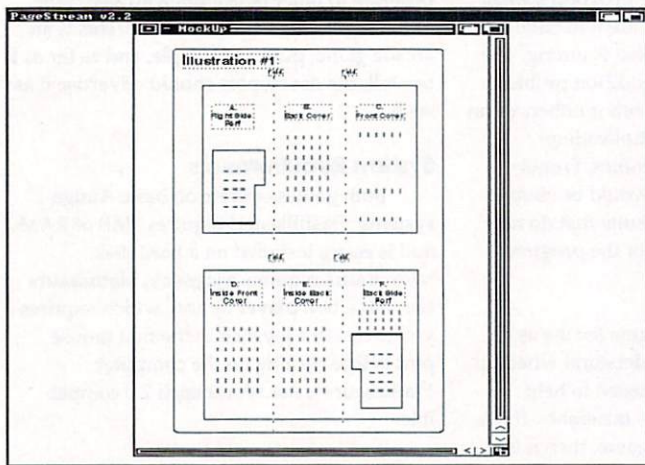
How to Design for and Use Specialty Papers to Publish Brochures with Attached Rolodex Cards

by Patricia Zabka Kaszycki

The power of desktop publishing is impressive and easy with your Amiga. But understanding how to choose and use options can be difficult even though desktop publishing hardware and software claims quick, easy production, and output in one place. All of this is done on your computer, with no need for typesetters, mechanical artists, illustrators, or outside printers.

This tutorial teaches you how to use the Amiga and *PageStream* (by Soft-Logik) to create a double-folded brochure and introduces one of the new specialty papers made for laser printers—a double-scored and Rolodex-perforated heavyweight card stock. Vendor information is provided at the end of this article.

The tutorial client is a taxidermist who wishes to publish an informational brochure that will include a Rolodex card. The client's layout is provided and suggests placement for the text and graphics. As the designer/desktop publisher your first task is to make a "mock-up" to match the layout. Fold the 8 1/2" x 11" paper stock to the finished



Top to bottom, Illustrations 1 and 2.

Developing Desktop Savvy

brochure size of 3 5/8" x 8 1/2". Then mark the front, back, and folded parts as shown in Illustration #1. Indicate where the text and graphics will be, take measurements, and write them down for future reference. Do this now to save hours of time later.

Open *PageStream* and select new from the File Menu. The Page Size requester will pop up. Select letter, 8 1/2 by 11, double-sided document, landscape, and click on OK to register your choices. From the Layout Menu select Create Columns. Inside the Create Column requester boxes type: .250 in the Inside box, .500 in the Top box, .250 in the Outside box, .750 in the Bottom box, 3 in the Number of Columns Across box, and .250 in the Space Between Columns (gutter) box. Type from 1 to 2 in the number of Pages boxes, and select the Columns Linked option. Left mouse click OK. From the View Menu "multiple" select: Show Full Width, Show Rulers, Show Guides, and Show Column Outline. Move to the Global Menu, and select Measuring System. Choose Picas from the Measuring System requester. Left mouse click OK. (Illustration 1)

Select Object Mode. Move the Arrow Pointer to the left column and left mouse click to select it. Move the Arrow Pointer to the center column, press and hold down the shift key, and left mouse click to select it. Move the Arrow Pointer to the right column, press and hold down the shift key, and left mouse click to select it. All three columns are selected and should have 24 small bounding boxes around them. From the Object Menu select Group. The columns are now grouped together and have eight bounding boxes showing.

From the Layout Menu turn on Snap to Guides. Move the Arrow Pointer to the 10-pica mark on the vertical ruler, and left mouse click on the ruler's tick to make the guide line appear.

Move the Arrow Pointer to the top center bounding box. Press and hold down the left mouse and drag the bounding rule to the guide line. All three columns will move and snap to the 10-pica mark on the vertical ruler.

From the Object Menu select Line/Style, and in the Line Style requester boxes type 1 for width, 1 for style, and choose black. Left mouse click OK.

From the View Menu select Show Grid. From your "mock-up," get the measurements for the Rolodex card. From the Tool Box select the Box Tool, and move the crosshair cursor to the page grid position at the 25-pica vertical grid and the 4-pica horizontal grid. Left mouse click once to anchor the position. Drag the crosshair icon across to the 20-pica horizontal grid, and down to the 48-pica vertical grid position. Left mouse click once to finish the box drawing. This is where the perforated Rolodex card will be on the printed piece. Make use of the grids to move the box into the exact position on the page as was determined by your original measurements from the "mock-up." Repeat this box drawing routine for page 2 of the tutorial. (Illustration 2)

It's time for a save and a test print. From the File Menu select Save As, and type in the name of your project. To test the accuracy of the layout, print a copy of the pages. From the Global Menu select the appropriate printer driver. Place the card stock into the printer's paper

tray. From the File Menu send the command to print the pages. Fold on the scores to be sure that the layout works with the special stock. If any of your column-boxes appear misaligned, make adjustments in the document windows—before you bring in all of the text. If you make adjustments, then print and fold the pages again and save your revisions.

From the View Menu, turn off Show Grids. From the Tool Box, select Object mode. Move the Arrow Pointer and “multiple” select the text columns on each page. From the Object Menu, turn off the line style and color from the Line Style requester.

The graphic elements are next. Getting them into the document window can be done in several ways—by drawing directly in PageStream or another program, from clip art, by scanning photos, and sometimes, as this tutorial will demonstrate, from existing dingbat-type fonts. In the Public Domain, there is a font called Animal—the “deer” keystroke is a perfect choice for this project. Use the Font Manager to load/update the typefaces you need. The manual that came with your software will detail the steps involved.

Begin on page one and select Text Mode from the Tool Box. From the Style Menu select Fonts/Points. Choose Animal, Medium, and 108 points in the Set Font requester. Left mouse click OK. Move the I-Beam cursor to the top of your page and type in the keystroke that will produce the animal you want—the deer is the lower case “i”.

Change to Object Mode. Then go to the Object Menu and select Duplicate. Type: 1 time, Horizontal 1.5, and Vertical 1.5. in the requester. Left mouse click on OK. A copy of the deer will appear. Move the Arrow Pointer to the duplicated object. Press and hold down the left mouse to bring up the hand icon, and “drag” move the duplicated image to the left of the original.

With the duplicate deer image selected, move the Arrow Pointer to the Style/Fonts Menu and choose Mirror. Select Block in the requester. The deer image will “turn” itself around. Use the Move Tool to position the images as indicated by the “mock-up” measurements. The mirrored image is moved to the top left panel, left position; and the original image goes to the top right panel, left position.

Select the top right-side deer image and from the Style/Fonts Menu choose Fonts/Points. Choose Block in the requester. From the Set Font requester, change the point size—delete 108 and type 144 into the point size box. Left mouse click OK.

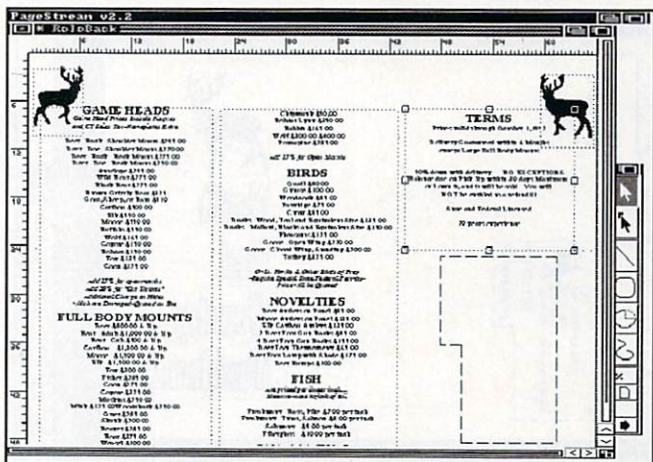
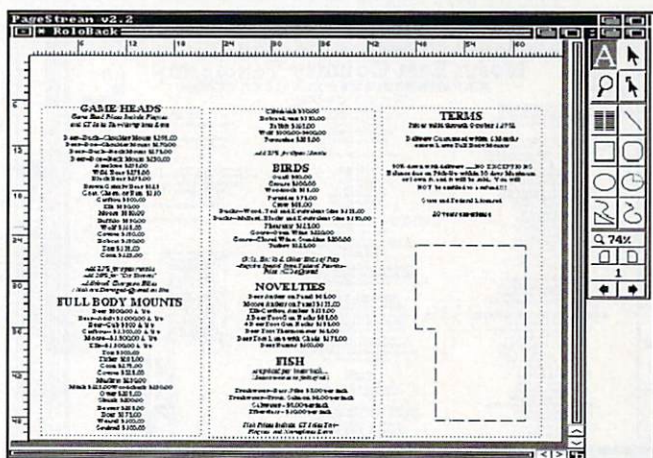
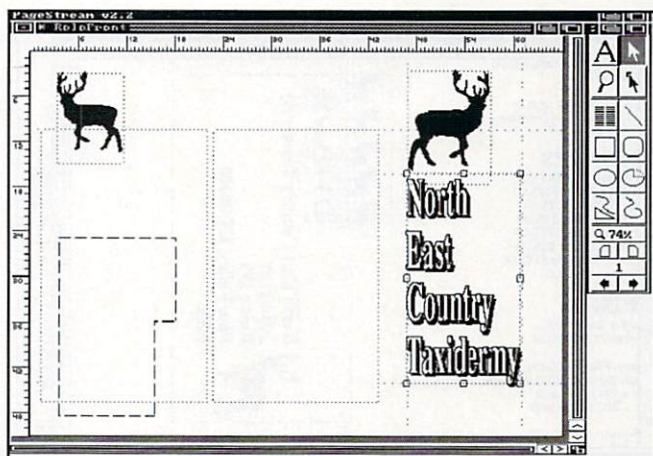
With the Arrow Pointer, select the text columns. From the Object Menu choose Ungroup, then left mouse click in the empty space at the top of the page to deselect the text columns. Move the Arrow Pointer to the right text column and left mouse click to bring up the bounding boxes. Delete this column.

Select Text Mode from the Tool Box and place the I-Beam cursor into the empty space under the deer image. From the Style Menu select Fonts/Points and in the Set Font requester choose Times, Normal, and 15 points. Type the name of the company.

From the Tool Box, select Object Mode. The eight bounding boxes will appear around the text. Move the Arrow Pointer to the bottom right bounding box. Press and hold down the left mouse and drag the bounding rule to the bottom 45-pica mark on the vertical ruler and the 60-pica mark on the horizontal ruler. The text will automatically enlarge.

From the Style Menu, “multiple” select Bold and Shadow. Select Block in the requester. Move the Arrow Pointer to the 16-pica vertical ruler tick and left mouse click. Move the Arrow Pointer to the 47-pica horizontal ruler tick and left mouse click. Move the Arrow Pointer to the 45-pica vertical ruler tick and left mouse click. Move the Arrow Pointer to the 61-pica horizontal ruler tick and left mouse click.

Press and hold the left mouse and drag the text block's top bounding rule to line up with the top left horizontal/vertical guides. Move the Arrow Pointer to the bottom right bounding box. Press and

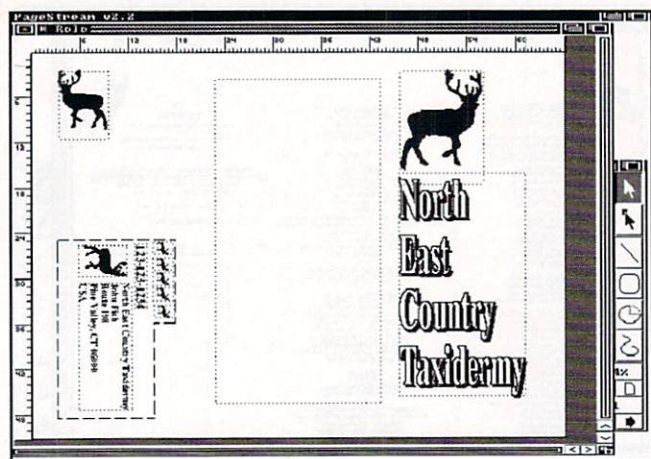
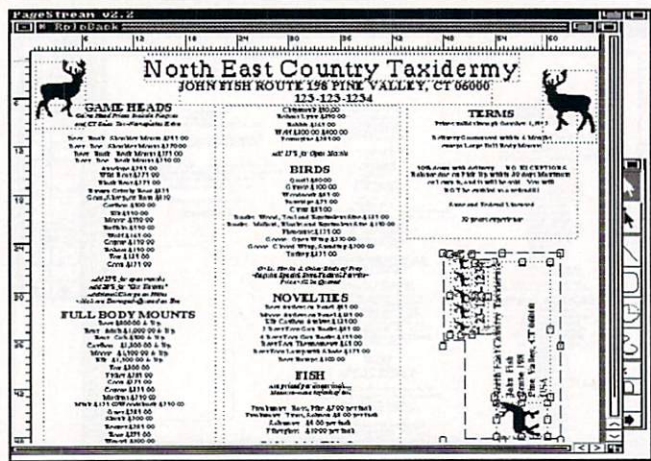
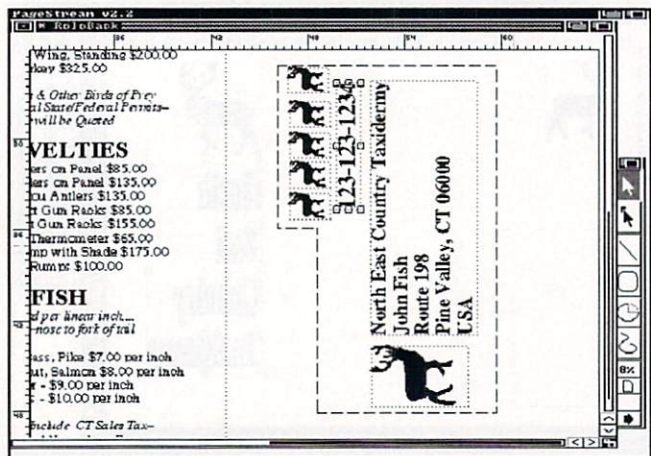


Top to bottom, Illustrations 3, 4, and 5.

hold the left mouse as you drag to adjust and align the text block with the bottom horizontal/vertical guides. (Illustration 3)

To format the brochure's inside panels—the body copy text—either make up a text file, or copy my text from the illustrations at the end of this article to use as you follow along and complete the exercise.

Go to page 2 of the document. Select the text columns. From the Object Menu choose Ungroup. Select Text Mode. Move the I-Beam cursor to the top left text column and left mouse click to place the cursor there. From the File Menu select Import Text, and from the Select File requester choose the relevant text file. From the Text Type requester select your file format and left mouse click OK. The screen will redraw and the text will appear in the three columns on page 2.



Top to bottom, Illustrations 6, 7, and 8.

Select Object Mode from the Tool Box, and move the Arrow Pointer to "multiple" select the three text columns. From the Style Menu select Font/Points, and choose Block from the requester that pops up. Then in the Set Font requester choose the typeface Times, the style Normal, and 11 Points. Left mouse click OK.

Go to the Format Menu and choose Line/Char Spacing. Select the Block box in the requester that pops up. The Change Line/Character Spacing Box will appear. Type 12 into the Line box, type 1 into the Character box, and select the Fixed Leading option. Left mouse click OK.

The page is in full view with the three text columns filled. From the Format Menu, choose Center, and select the Block box in the requester

that pops up. When the screen redraws, the text will be centered inside of the three text columns. Go to the View Menu and select Show/Set User Scale. Type 150% in the User Scale box. Left mouse click OK. Or, use the new Magnify Tool from the Tool Box and position the magnify icon to click on the top left side of the left text column.

From the Tool Box select Text Mode. Move the I-Beam cursor to "drag select" the first line of text in the left column. From the Style Menu select Fonts/Points, and choose Times, Bold, and 18 Points. Left mouse click on OK. You just formatted what is called a "head." Heads are used to emphasize, highlight, invite, and call attention to your text's message. Now move around through the three text columns and repeat these "drag select" steps for: Full Body Mounts, half way down the left Column; Birds, approximately 1/4 down the top of the Center Column; Novelties, 1/2 down the Center Column; Fish at the bottom of the Center Column; and in the right Text Column Terms at the top. The tutorial uses several subheads which have been formatted in italics. The same steps used to create the "heads" were used to create the subheads, except that in the Style Menu the option for "italics" was selected. (Illustration 4)

Select Full Width from the View Menu. With the Text Tool selected, move the I-Beam cursor to the empty space at the page's top left side. Left mouse click to place the cursor. From the Style Menu, select Fonts/Points and from the Set Font requester, choose the Typeface, Animal; the Style, medium; and 108 Points. Left mouse click OK. From the Format Menu, choose Line/Char Space and type 0 in the Line box, 0 in the Character box, select Auto Line Spacing, and left mouse click OK. Type the keystroke for the deer—the lower case i—to place a copy on the page at the cursor.

Switch to Object Mode. The eight bounding boxes will appear around the deer keystroke. Move to the Object Menu and choose Duplicate. In the Duplicate Objects requester, type 1 in the Copies box, and left mouse click OK. A Copy of the deer will appear with the eight bounding boxes now around it. Move the Arrow Pointer to the duplicated deer and "drag move" the copy to the top right text column's right side.

Change to Text Mode, and move the I-Beam cursor to the duplicated deer image and "drag select" it. Then from the Style Menu choose Mirror. The highlighted text object will turn itself around. Change to Object Mode and, using the rulers, the page grid, and your original paper layout, manipulate the graphics until you're satisfied that they are exactly where you want them to be.

From the View Menu, select Show Full page. Move the Arrow Pointer to the deer at the top left of page 2 and left mouse click to select it. From the Edit Menu choose Copy. From the View Menu select Show Guides, and from the Layout Menu select Snap to Guides. Move the Arrow Pointer to the 24-pica mark on the vertical ruler and left mouse click to place a guide on the page.

Move the Arrow Pointer to the bottom of the right-most column. Left mouse click to select the column and to bring up the eight bounding boxes. Move the Arrow Pointer to the bottom center bounding box, and press and hold the left mouse as you "drag" the bounding rule to the 24-pica guide line on the page. (Illustration 5)

From the Tool Box choose Magnify Mode. Move and left mouse click the Magnify icon, in the area of the Rolodex card, at about the 30-pica mark on the vertical ruler, and the 40-pica mark on the horizontal ruler. Select Object Mode. From the Edit Menu select Paste. Left mouse click to place a copy of the deer from the paste buffer on the page.

Select the Object Mode. Then from the Style Menu select Fonts/Points and left mouse click on Block in the requester. From the Set Font requester, choose Animal, Medium, and 24 points. Left mouse click OK.

From the Object Menu, select Rotate, and in the Rotate Objects requester type 90 in the Rotate box. Left mouse click OK. From the Object Menu select Duplicate. The Duplicate Objects requester will pop up. Type 5 in the Copies box, and left mouse click OK.

Move the Arrow Pointer to the 47-pica mark on the horizontal ruler and left mouse click to place a guide on the page. Next, move the Arrow Pointer to the last duplicated and rotated deer object. Press and hold down the left mouse to select and "drag move" towards the tab on the Rolodex card, lining the text object up with the 47-pica guide line. Repeat four times.

Use the Arrow Pointer to drag the remaining deer to the bottom right side on about the 48-pica mark on the vertical ruler. This is where the left side of the Rolodex card is located. From the Style Menu select Fonts/Points. Left mouse click on the Block box in the requester. Then, in the Set Font requester choose Animal, Medium, and 72 points. Left mouse click OK.

From the Tool Box select Text Mode. Move and left mouse click to place the I-Beam cursor on the page at about the 45-pica mark on the horizontal ruler and the 40-pica mark on the vertical ruler. From the Style Menu select Fonts/Points, and in the Set Font requester choose Times, Normal, and 15 points. Left mouse click OK. Type the name(s), address, and telephone number.

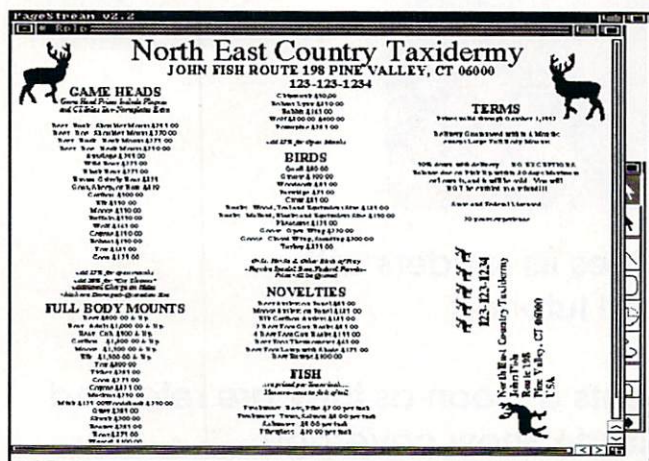


Illustration 9, the finished layout.

From the Object Menu select Rotate, and in the Rotate Objects requester type 90 in the Rotate box. Left mouse click OK. Press and hold down the left mouse to bring up the hand move icon, and drag the rotated text object to about the 52-pica mark on the horizontal ruler and the 42-pica mark on the vertical ruler.

Select the Text Tool and move the I-Beam cursor to the telephone number inside the rotated text object. Press and drag the left mouse to highlight and select the line. From the Edit Menu choose Cut. Move and click the I-Beam cursor to place it on the 42-pica mark on the horizontal ruler and the 38-pica mark on the vertical ruler. From the Edit Menu select Copy.

From the Tool Box select Object Mode and move the Arrow Pointer to the pasted copy of the telephone number. Left mouse click to select it. From the Object Menu select Rotate, and in the Rotate Objects requester type 90 in the Rotate box. Left mouse click OK. Press and hold down the left mouse to bring up the hand move icon. Drag the rotated text object to the tab on the Rolodex card at the 49-pica mark on the horizontal ruler and the 35-pica mark on the vertical ruler so it lies just beneath the deer images on the tab. (Illustration 6)

Select Text Mode from the Tool Box and move the I-Beam cursor to highlight and select the name of the company from the Rolodex card. From the Edit Menu select Copy. From the View Menu select Show Full

Width, and Move the I-Beam cursor to the top of the page. Left mouse click to place the cursor at the 2-pica mark on the vertical ruler and the 13-pica mark on the horizontal ruler. From the Edit Menu choose Paste.

From the Tool Box select Object Mode and move the Arrow Pointer to the bottom right bounding box of the company name. Press and hold down the left mouse and drag the text block across and down the top of the page to the 55-pica mark on the horizontal ruler and the 3-pica mark on the vertical ruler.

Repeat these steps for the rest of the address information, making the text any size you like. When you are satisfied with the scale and position of this headline, move the Arrow Pointer to the top left corner of the Rolodex card. Press and hold down the Alt key and the left mouse, and drag the bounding rule to "multiple" select the Rolodex data. (Illustration 7)

From the Object Menu choose Group. From the Edit Menu choose Copy. Go to Page 1. Move the Arrow Pointer to the bottom left side of the page to the empty spot where the Rolodex card will be placed, and from the Edit Menu select Paste. Then click the left mouse to place the copy. From the Object Menu select Rotate, and in the Rotate Objects requester type 180 in the Rotate box. From the Object Menu select Ungroup. Move the Arrow Pointer to the tab area and "multiple" select the telephone number and the group of deer. Select Group from the Object Menu. Press and hold down the left mouse to bring up the hand icon move tool, and drag the new group to the correct position on the tab. (Illustration 8)

From the Tool Box select Text Mode. Move the I-Beam cursor to the empty left column under the graphic on page 1. Left mouse click to place the I-Beam cursor's insertion point there. From your files import the back panel text, or type directly into the column. I've imported my file, and highlighted the first three words—Field Trophy Care.

From the Edit Menu select Cut. Left mouse click the I-Beam cursor to place the insertion point above the text column at about 12 picas on the horizontal ruler and 3 picas on the vertical ruler. From the Edit Menu select Paste. Left mouse click to place the I-Beam cursor after the first word, and press the return key to make two lines. Left mouse click to place the I-Beam cursor after the first word on the second line, and press the return key to make three lines.

From the Tool Box select Object Mode and from the Format Menu select Block Right. Move the Arrow Pointer to the bottom right bounding box, and press and hold down the left mouse to drag the bounding rule to the 20-pica mark on the horizontal ruler and the 10-pica mark on the vertical ruler.

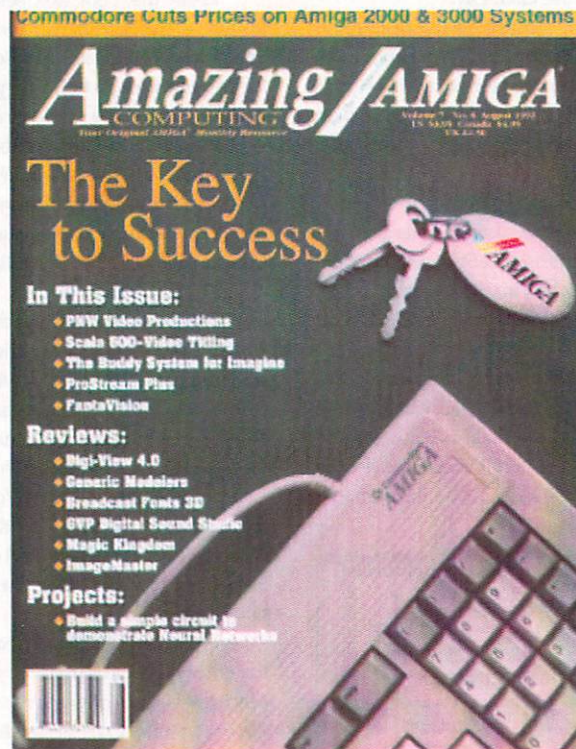
Move the Arrow Pointer to the final column of text and verify its fit. If there are type style formatting changes you wish to make use the Style Menu options. The center column has the mailing information. Use the Edit Menu to copy the address data from the Rolodex card. Then use the Move and Rotate tools to turn and place the information on the center panel. Select and then delete the boxes you drew to indicate the perforated Rolodex card. (Illustration 9)

Print copies of the pages and then fold them to see how they look and fit. Make adjustments if you need to. When you are satisfied, print these final pages onto the scored and perforated card stock. Show the client and get his approval before outputting the remaining 200 copies. Happy Publishing!

•AC•

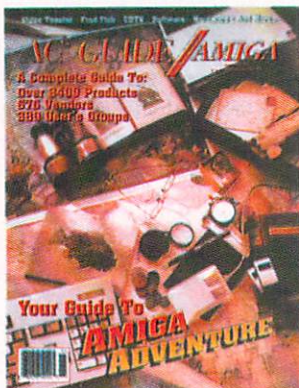
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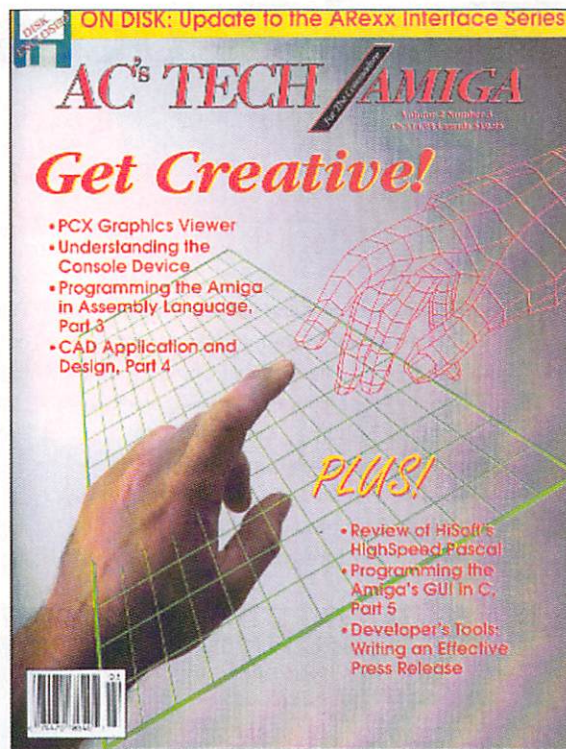


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Graphic Word Processors Head to Head:

I started out simply to review *Final Copy* by SoftWood. I'd had the package only one day when, at my Amiga User's Group, I was raving about how nifty Final Copy is. Then a member asked me, "How can you be sure it's so great when you haven't compared it to *ProWrite* by New Horizons? After all, people will really want to know which one of these packages to buy, and not just how you feel about only one of them." He had a point, and I agreed.

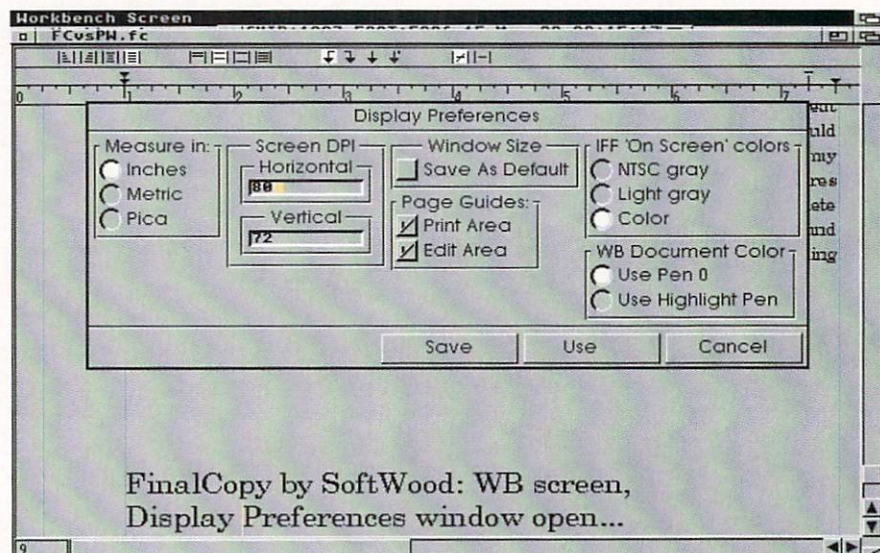
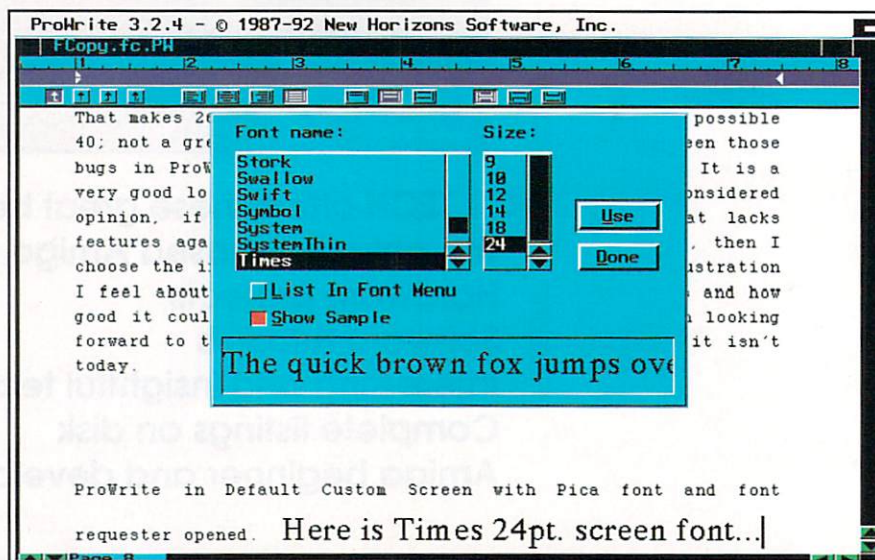
Soon, I had a copy of *ProWrite* and began to use both it and Final Copy. I came to this test after using that gnarly old dinosaur, *WordPerfect*, to write an entire book and dozens of articles. I have a love-hate relationship with *WordPerfect*, so the chance to upgrade my writing tools with the latest Amiga programs was irresistible. *WordPerfect* was the only program available when I started with my Amiga and I wouldn't wish its learning curve on my worst enemy. I will say this, though: Once WP is set up properly and you've written all your macros, it's a powerhouse. But why should a word processor be that hard to learn? SoftWood and New Horizons claim to have made word

processing intuitive and easy for Amiga users, so I set out to compare for myself.

SoftWood intends Final Copy, the new kid on the graphic word processor block, to compete directly with New Horizons's *ProWrite* 3.2, as evidenced by their aggressive comparison advertising campaign. SoftWood entered the early graphic word processor competition with

Pen Pal, but *ProWrite*'s popularity edged it out. Now, in Round Two, SoftWood claims to match or exceed *ProWrite* feature for feature. I gave both Final Copy and *ProWrite* a good workout to find out if these claims are justified.

I had some misgivings about speed and the appearance of screen fonts in these graphic word processors, so called because



they show you on screen what your printout will actually look like. In the recent past, graphic (or WYSIWYG) word processors had a bad reputation for slowness and poor screen fonts that did not match what came out on the printer. They also could not print their output without "jaggies" present because of their bit-mapped fonts. All that has changed.

Not only do both of these packages feature "What You See Is What You Get," having some very readable screen fonts, but they have printer drivers, supporting full blown PostScript, and they produce clean output without the jaggies to dot-matrix printers. The Final Copy printer driver is

Final Copy 1.3 rev 2 by SoftWood vs. ProWrite 3.2 by New Horizons

by Merrill Callaway

the slickest I've seen. You really *do* get what you see! Both of these packages offer a great deal of convenience in producing high quality output with graphics and text mixed, but without the learning overhead or the expense of a more fully featured DTP program.

Methods of Evaluation

To evaluate these programs, I typed for a while in one, and then opened the other program and imported the text from the other format. Both programs import text produced by other software with varying degrees of success, and I looked at this closely. Roughly speaking, we can divide the capabilities of these word processors into four areas:

- 1) user interface
- 2) input/output: importing other formats and printing the results
- 3) handling of graphics
- 4) making macros with AREXX.

I noted how smoothly I could perform operations in all four areas in each program.

An Unpleasant Surprise

I thought for sure that one of these programs would emerge a clear winner, or at least that any close competition would be in a field of overwhelming excellence, but surprisingly, there are things about each

one that I really dislike and a few features of each that I'd classify as unforgivable unless fixed—and soon. If several features in each program were changed and improved, I would gladly replace my "brontosaurus" with either one. However, the way things stand, I'm honestly not ready to give up WordPerfect just yet. The frustrating thing is that the many great things about both Final Copy and ProWrite make their shortcomings look even worse. I suppose that when your profession makes you use a particular piece of software every day, you get fussy. You may or may not agree with my opinions, but my criticisms are offered constructively and with much experience to back them up.

Fonts

A graphic word processor is only worth its fonts, because if you cannot print it, what good is it? The good news: Final Copy includes 35 outline fonts (including all "standard" PostScript fonts) which may be scaled in integral point sizes, while ProWrite supports the Amiga system fonts. The bad news: Final Copy uses proprietary font technology, so you have to buy their fonts. ProWrite allows only discrete font sizes even if you have a PostScript printer and System 2.0 outline fonts. If you use a PostScript printer, an annoying thing about ProWrite is that you cannot get rid of the dot-matrix font names in the "other font"

menu, even though the fonts are not installed. This clutters up the interface. Also, the only PostScript fonts are Helvetica, Courier, and Times—a sparse set. The other fonts all print in a Pica-11 default font no matter what the screen shows. This will not be an annoyance if you use a dot-matrix printer, as it will reproduce all the ProWrite and system fonts.

Despite the proprietary fonts, I prefer the font choices in Final Copy because they give me all my PostScript fonts on screen and at the printer, and there is a program to download SoftWood's two volumes of extra non-standard fonts to my laser printer. However, I like the font interface in ProWrite much better than the one in Final Copy. You may choose which fonts will show up in the main font menu as well as the default font. You cannot set the default font or the font menu in Final Copy, which is inconvenient when you always use one set of favorite fonts.

Printer Drivers and Importing Text

Closely related to fonts, of course, is the printer driver. I used the PostScript drivers from both packages with my Epson EPL 7500 laser PostScript printer. ProWrite did acceptably well if I was careful to obey the constraints previously mentioned and used only the "PostScript" fonts and a document composed in ProWrite. However, when I imported a document made in Final Copy, a bug in the ProWrite Convert program upset my default settings from PostScript to NLQ and my page size from letter to legal, and made my text show on screen in yellow! Very interesting, but not funny. The ProWrite Print Preferences do not have an OK gadget to save them but not print. This, coupled with the import bug, made it very unpleasant to import files from Final Copy. The Convert program in ProWrite also told me that all those files I was sure I had done in WordPerfect

weren't, in fact, WordPerfect files! It chokes on WP files with footers that contain page number inserts. The Convert program is supposed to convert 11 types of formats from other word processors, and I had unacceptable results with two of them. In my opinion—Convert doesn't.

The Final Copy program uses libraries for importing text from other platforms. Final Copy supports only four format imports: WordPerfect, Pen Pal, ProWrite, and QFont, but I had no trouble at all with the imports from WordPerfect and ProWrite. The basic text loaded transparently, but special things like footers, fonts, original line spacing, bold, and italics are lost. The only noticeable difference is that they take longer to load (a *lot* longer on a stock Amiga) due to the conversion process. Even if it worked properly, the ProWrite Convert program is clumsy compared to the transparent loading in Final Copy because you must launch it separately and perform your conversions manually, but it does keep bold and italics.

The Final Copy print driver worked flawlessly, and I always got exactly what I saw on screen, except in sharper 300 dpi resolution. Even the "Soft-Sans" Final Copy default font (not one of my 35 standard PostScript fonts) printed on my laser printer exactly as it appeared on screen. (The default Pica-11 in ProWrite printed with the same style as on the screen, but the spacing between letters was too wide.) The Final Copy print defaults are simple to set, and they stay that way. I have never seen a better or more foolproof printer driver. Final Copy is easily the winner in importing text and driving your printer, especially if you have a PostScript printer.

ARexx Macros

Again, with regard to fonts, in both programs, you cannot use ARexx to set the fonts or find out which font is currently in use. To me, it is unconscionable for a word processor developer to implement ARexx as their macro language and then not provide any commands to remotely set the

fonts. Furthermore, Final Copy has only half an ARexx command set. There are *no* ARexx commands to find out any information whatsoever about your document—path, filename, address of the window, preferences—nothing, and you cannot set fonts or preferences through ARexx.

The ProWrite ARexx command set is much better than the one in Final Copy. I work with ARexx all the time, and it's a great disappointment to see two companies miss what ARexx is all about. It is much more than a one-way macro language used merely to open requesters. To do really worthwhile things with ARexx, you need to have *two-way* communication. For everything you SET with ARexx, there

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should also be an inverse command to GET the information from the program. Otherwise, you miss all the tremendous remote control possibilities of ARexx.

I do really like the fact that you can rename the ARexx macros in ProWrite's menu. You cannot do that in Final Copy; you must remember what "AMacro_8" means. ProWrite has a much larger ARexx command set; thus, macros are a lot easier to write. There are several example scripts included with ProWrite, but none with Final Copy, which is too bad for beginners.

I suggest that New Horizons and especially SoftWood take a look at the ARexx interface that comes with *TurboText*

by Oxix. This is a paragon of what an ARexx interface ought to be. The perfect ARexx interface lets you do anything in the program and know anything about the program without ever looking at it. Both Final Copy and ProWrite are a long way from this. The Final Copy manual doesn't even tell you the correct name of their address port! If you never use ARexx, then you will wonder what all my raving is about. It's just frustrating to see how really good both of these programs could be, but aren't.

User Interfaces

The feel of ProWrite seems better to me for several reasons. First, you can set the screen colors on their custom screen, which you cannot do in Final Copy. Final Copy uses a glaring white screen with black type, which is hard on my eyes. I've found that an off-white or gray screen effectively anti-aliases the screen fonts so that they are easier to read. The Final Copy screen is acceptable in the Workbench mode, and that's the way I use it.

The ProWrite screen color map has an annoying habit of changing after I click on OK. It seems to have a "smart" screen color palette which chooses which colors to map to the screen and gadgets, usually the lightest for the page background. This wasn't always what I expected or wanted. With some work, I managed to get an attractive display.

Several of the menus in ProWrite are reconfigurable, such as the fonts displayed at startup, and the default font may be set. Speaking this time of screen fonts, I find that they can still be hard to see and distracting from the task of writing. The screen refresh speed was acceptable on my 25MHz A3000, but on an unaccelerated A2000, things seemed slower than in WordPerfect. I could not get Final Copy to work in System 1.3 on an old A2000 before or after I used the 1.3 patch that comes with the program.

In both programs, I prefer to compose in a large, readable san-serif and later change to a different font for layout and

AC Disks

Source code and executable programs included for all articles printed in *Amazing Computing*.

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printing. I find the screen fonts in ProWrite to be slightly more readable. Perhaps this is so because I had control over the exact screen color. All operations in both programs use many Amiga standards such as Right Amiga-X to cut, and so on. The two are quite similar to operate, and refreshingly, require a minimum of manual study. Even though both programs are very intuitive, their manuals are first rate and well illustrated and indexed. A beginner will have no trouble operating either program.

With respect to a spelling dictionary and thesaurus, Final Copy has a larger dictionary than ProWrite (116,000 words vs. 100,000 words). The Final Copy thesaurus gives you on-line definitions as well as synonyms. This superiority is not surprising because SoftWood specializes in this, marketing the *Electric Thesaurus* and *Proper Grammar*. Oddly, there is no easy way to

I soon realized that they had left out the handiest sizes of all—about 130% to 150% of normal. I learned this when I was laying out "The ARExx Cookbook" in *PageStream*. A slightly magnified view is the one I most commonly need, so the Final Copy view feature did not completely impress me. Its magnified settings are too large.

The smaller settings, however, are very handy for positioning graphic images on the page. The lack of any sort of view sizing feature in ProWrite makes it tedious to position a large graphic on the page. I loaded a 640x400 16-color IFF image into each program and, after resizing to the same size in each program, printed it on about one-half a letter size page. The PostScript driver in Final Copy printed in a respectable 1:32, while the ProWrite driver took a whopping 14:57. Clearly, the print driver in Final Copy is the superior one for outputting graphics. Furthermore, the Final

Copy does a better job with graphics than ProWrite.

Miscellaneous Features

ProWrite does several things that Final Copy does not. It has a handy sort which will put items separated with paragraph breaks into ascending or descending order. ProWrite also has a merge capability (e.g., to merge many different addresses into a form letter). You may also opt for continuous spell checking as you type, or speak as you type, good for vision-impaired users. Both programs let you edit headers and footers, insert page numbers and date, and snake text into columns (maximum of five for ProWrite and six for Final Copy). Both programs use the 10 function keys to launch macros, except that ProWrite lets you rename these in the menu, something I like very much.

All operations in both programs use Amiga standards such as Right Amiga-X to cut, and so on. The two are quite similar to operate, and refreshingly, require a minimal of manual study.

use ARExx to take your document from Final Copy to Proper Grammar. I found a way to do this using a shared library and ARExx (see my August 1992 ARExx column).

Final Copy wins in the areas of dictionary, thesaurus, and niceties such as automatic hyphenation, with definable hot zone on your ruler, but Final Copy loses to ProWrite on several very commonly used, and obvious, operations. ProWrite has hot keys to make a selected block bold or italicized, but in Final Copy, you must open the font menu, load a separate font for italics or bold, and then select it from a menu with no hot key. I was irked that I could not set the font with ARExx, because I could have made two function keys into my bold and italic hot keys.

Screen Sizes and Graphics

Final Copy sports changeable views of 25%, 50%, 100% (normal), 200%, and 400%.

Copy graphics load in a more convenient, smaller size than they do in ProWrite, and the screen refreshes are faster. Final Copy supports 24-bit graphics and ProWrite does not. ProWrite has an annoying habit (another bug?) of putting up a save requester frequently after I load a graphic. Every time I cancel it, I have a tedious wait for the screen to refresh. The save requester pops up at odd times while I'm in the menu performing some other task.

With Final Copy, you may resize and crop your graphic, change the background color 0 to transparent, and outline the picture with a rectangular line of various widths. Text may be made to flow around an object by using a transparent color 0, or if you use a solid color 0, you may flow text down either side of the rectangle occupied by the IFF image. In ProWrite, you can only resize the image. Amazingly, there is no automatic text flow. You must do all this manually. There's no contest here. Final

Results

ProWrite is a very good-looking program, however, if I have to choose between a program that lacks features against one that has bugs in basic operations, then I choose the incomplete program. All the considerable frustration I feel about Final Copy is centered around what it lacks and how good it could become. What it does, it does well. I'm looking forward to the day I can retire WordPerfect. I'm sad to say it isn't today. I guess WordPerfect isn't a dinosaur after all.

•AC•

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LightWave 2.0

In the high-end film and video production world, image compositing is king, and LightWave 2.0 adds new features which greatly enhance its digital compositing capabilities.

by Mark Thompson

By now you have probably seen and read a deluge of articles and reviews on the new Toaster software including *LightWave 2.0*. With over 150 new features, it would be impossible to cover everything that the latest version of LightWave offers. I am going to try to avoid those topics which will likely be rehashed by many authors and touch upon some of the less talked-about benefits and pitfalls of the latest LightWave release.

In the high-end film and video production world, image compositing is king, and the 2.0 LightWave release adds two new features which greatly enhance its digital compositing capabilities. The first is the Foreground Key Clip Color registers. As you know, when you used a foreground image in the past, any area of that image that was absolute zero black (color 0 0 0) would provide a "hole" through which the

rendered image or background could be seen. The only problem with this is that only computer-generated imagery can produce a constant zero black in the hole areas. Now with the Key Clip registers, you may specify a range of values allowing captured video to be used as a foreground source, in much the same way as you would with a chroma keyer. Let's say you have captured a video sequence shot against a blue background. After digitizing the sequence, load a representative frame into ToasterPaint. Use the comma key within the palette control panel to pick colors in various background areas of the image. This will report the RGB values at various locations. Make note of the darkest and lightest values you find. Then load the sequence into LightWave as a foreground image, and set Low Clip Color to a little less than the darkest color you found and High

Top: Figure 1: Render time on this image was decreased by over 20 percent simply by re-rendering it under LightWave 2.0.

Clip Color to a little more than the lightest. When rendering commences, all colors in between these two values will be treated as holes in the image. If part of your background shows up, adjust the Clip colors accordingly until it disappears. The better and more uniform your lighting was during the shoot, the easier this step will be. This new feature will not obsolete an Ultimatte keyer, but it certainly expands the compositing capabilities of the Toaster.

Release 2.0 makes them dynamic so that any changes a target object undergoes (with its own morph envelope) will be reflected back into the source object morph. For example, let's say you have a source object and two target objects. Set up the source to morph to target #1, and target #1 to simultaneously morph to target #2. The source will begin to transform into target #1, but as target #1 changes into target #2, the source object also begins to change into



Figure 2: Two new features, non-linear fog and the underwater texture (used on the shark skin), are exemplified here.

New Ways to Render

The second major addition for compositing is not a new feature, but a change in the way rendering is done. The order in which backgrounds and foregrounds are rendered in LightWave has been switched. Now the foreground is layered in first, followed by the 3-D rendering, which is performed only where the holes are located in the foreground image. The background is layered in last, only where there is no foreground or 3-D rendered imagery. This rendering order switch will dramatically improve image generation speed during compositing operations. See Figure 1.

One of the new features of 2.0 that you may have heard about is multi-target morphing. What many people don't realize, however, is that LightWave 1.0 already had this capability. The method required to implement a multi-target morph was moderately painful, and that has not changed much with the new release. What has changed is the way in which targets are handled. In 1.0, targets were a static entity.

target #2. Therefore, the technique for putting together multi-target morphs is the same, but much more complex morphs can be created since interdependent morphs affect one another. And since up to 16 morphs can be interrelated in this way, some very unusual—and not easily predictable—motions can result. An added benefit of this method of handling targets is that it reduces the need for dissolve envelopes in complex morphs. This new feature is definitely worth some experimentation. An additional benefit that aids previewing morphs is that any object (typically the target object) that is 100 percent dissolved will not show up in layout, thus decluttering the preview.

Perhaps one of LightWave's greatest strengths is its handling of object surfaces. The 2.0 release further improves on this strength with an array of new features in the Surfaces window. First is the ability to load and save surface definitions. Besides the convenience and time savings this ability will bring, it will also most likely spur a vast outpouring of specially

designed third-party surface libraries. A more obscure addition is the Sharp Terminator button, which changes the lighting/shading model for a given surface. Most surfaces are what are called lambertian reflectors, which means that the illumination drop-off from light to dark across the surface is smooth. By enabling this button, that lighting drop-off becomes much more sudden, hence the name, Sharp Terminator. A planetary object is a perfect example of a case for which the use of Sharp Terminator is ideal. For transparent surfaces, an input for refractive index has been added which can provide a realistic simulation of materials such as glass, diamond, quartz, water, or even Jello. By giving a transparent surface a setting other than 1.0, light passing through it will be bent. It even works accurately enough to model such real world phenomena as total internal reflection. However, the refractive index will have an effect only when ray tracing is enabled, a topic we'll get to later.

A Perfect Fit

Textures have not gone untouched either. Far and away, the single biggest time saver for image mapping is the new automatic sizing function within the texture menus. With a single button press, LightWave will not only find the best fit in all three dimensions for your image, but will also appropriately set the Texture Center. Even if your image map is one that is intended to be repeated across the surface, click on the Automatic Sizing button, then go into Texture Size and multiply the existing numbers by the amounts which you wanted the pattern to repeat. Voilà! A perfect fit. To improve image mapped rendering, NewTek added an anti-alias button for viewing detailed maps from a distance, and Pixel Blending for viewing less-detailed maps up close. LightWave also now supports two new input image formats, the Toaster's own Frame format and 8-bit greyscale IFF (à la ADPro). The latter is perfect for flawlessly smooth, diffuse specular reflection, or transparency mapping without the unnecessary overhead of a 24-bit image. Also, the rendering speed of 24-bit image maps has been greatly enhanced. Other new texture features include spherical bump mapping, bump map image amplitude, and underwater and dots procedural textures. The shark skin in Figure 2 is an example of the underwater texture.

One of LightWave's more impressive features is the ability to make the edges of a

surface transparent or opaque. The 2.0 release has added an edge threshold setting, giving complete control over this feature. This allows glow effects to be more pronounced or subtle and provides much better simulation of glass surfaces without ray tracing. By setting the edge threshold to a higher value, the opaque or transparent edge effect spreads further in toward the center of the object, yielding a softer transition. Smaller values yield a sudden transition right near the edge.

There is one enhancement that is likely to go mostly unnoticed, but I find it to be one of the most welcome. Overlapping and intersecting transparent surfaces now render properly. LightWave uses a Z-buffer based rendering scheme, a method which historically does not deal well with transparency. This is an inherent pitfall of the Z-buffer because the Z-buffer is only concerned with the pixel nearest the viewer. Transparency requires that not only the nearest pixel be accounted for, but more distant pixels as well, especially if they are also transparent. LightWave 1.0 used a rough depth sort to try to combat this shortcoming, but cases could always arise that would not be properly handled, yielding dark patches in your transparent surfaces—an unwelcome effect you may have already experienced. The 2.0 release attacks this problem by using a multi-pass algorithm which was first introduced in 1989 by the now-defunct graphics supercomputer manufacturer, Stellar Computer. This method will make multiple rendering passes on transparent objects, depending on how many layers of overlapping transparency exist. The result is a slightly lengthier render time, but now, for example, glass can glow, or any other transparent surface may be freely combined or intersected with any other transparent surfaces. You can try it out by clustering a bunch of glass spheres together. The 1.0 release would have had a lot of problems with such a scene.

Inconspicuous Feature

Another inconspicuous feature of 2.0 is the F10 render hot-key. By hitting function key 10 anywhere within the LightWave screens, the last selected render option—manual or automatic—will be started without prompt. Big deal you say. But this is extremely handy when you are setting up texture values within Surfaces. Now you no longer need to exit a texture setting to render and view the result. This makes surface prototyping much faster. Unfortunately, this new trick does not work



Figure 3: This surrealistic scene demonstrates the new ray-traced reflection and refraction. In addition, the four abstract shapes were created in seconds using the new twist, bend, and taper tools on four simple cylinders.

within Layout; it would have been nice to have F10 render the current frame—perhaps in the next release. But while F10 does not work in Layout, a variety of time-saving hot-keys have been added to make setting up scenes and animations much quicker. Most of the major functions are now only a single key press away. The Modeler has also added a pile of hot-keys for quicker operation. Here the keys are particularly helpful because Modeler has its tools spread out across nine different

tracer since it produced spectacular images without the extreme compute expense. Well, that same philosophy has been maintained with the new tracing options. This is accomplished in several ways. First, the trace options are completely modular, allowing you to individually select whether or not to trace reflection, refraction, and/or shadows. You could, for example, have a glass globe that uses a reflected image rather than tracing, but which still has traced refraction. This level of control

One of the most significant, or at least most publicized, new features of LightWave is the addition of ray tracing.

windows. The hot-keys implement many of the most common functions without having to flip to the correct window. Another handy addition is the pop-up hot-key menu, which lists each hot-key and the function that it triggers. The hot-key menu is brought up by hitting the Help key.

Ray Tracing Added

One of the most significant, or at least most publicized, new features of LightWave is the addition of ray tracing. When I wrote my first LightWave article for *Amazing Computing* about a year ago, I praised LightWave for not being a ray

allows very speedy rendering times by limiting the computation to only where it is needed. Further, much more control has been added to shadow generation. Now each object has flags to toggle whether or not it will cast shadows, receive shadows, or create shadows on itself. A sphere is an example of an object that would have no need for self-shadowing, and disabling it can dramatically improve render time. Additionally, each light source can be enabled or disabled as a shadow source. This can be especially useful in complex lighting situations where many lights are required to properly illuminate the scene,

but only one or two are needed to source shadows for satisfactory realism, thus saving an enormous amount of compute time.

However, the most impressive feature of the new ray-tracing capabilities is the fact that only those surfaces that require true reflection or refraction are traced. All other surfaces are rendered using the normal Z-buffer based method that has always given LightWave its speed advantage. This is one of the only 3-D packages I am aware of that has this "hybrid" rendering capability. Therefore, a scene in which the traced surfaces make up only a small percentage of the total image will be generated nearly as rapidly as a non-traced scene. There is one caveat that should be mentioned. Transparent objects that are traced with

object like a cylinder can be easily transformed into complex shapes with the application of these new tools. Character animators will find Bend particularly handy for creating morph targets for limb/appendage movements. The new Multiply tools include Skin and Morph. Skin takes a series of cross-sectional polygons and uses them as a framework around which a surface is wrapped, creating a 3-D form. Then Morph takes two polygons and creates a sequence of polygons which change shape from the first to the second. This is perfect for automatically generating cross-sections for the Skin tool. The 2.0 Modeler has many other new features which make it much easier to use. If you were put off by its minimalist implementation in 1.0, you owe it to yourself to give 2.0

annoying is the fact that the color panel in the Surfaces Color requester tends to disappear while the sliders are being adjusted. I also have a special warning to those who are ray tracing transparent surfaces with refraction. If your surface has either double-sided polygons or has the double-sided polygon flag enabled in the Surfaces menu, your render times can be roughly 10 times slower than they would be with single-sided polygons. While some level of slowdown is expected, this magnitude is unwarranted. Note that you may never experience any of these problems; I tend to push my software pretty hard. But as severe as some of these bugs are, I hope NewTek plans at least to release a patched version so that we don't have to wait for the 3.0 Toaster. The good

Perhaps one of LightWave's greatest strengths is its handling of object surfaces.

refraction will not refract a background image. This result is not a bug, but is due to the fact that such a refraction would require LightWave to know the distance from the refracting medium to the background. Since no such distance is defined, refraction is not possible. Perhaps a future version will allow the user to assign a distance to the background.

Modeler Improvements

While all the improvements and additions to LightWave are fantastic, many would argue that the Modeler was what needed real improvement. Well, rest assured that the Modeler is 100 percent more functional. First of all, the methods for dealing with and selecting points, polygons, and surfaces have been greatly improved. One example is the new Lasso select/deselect, whereby you simply draw a loop around the points, polygons, or volume you wish to affect. Another is a new statistics window which allows select/deselect in a number of ways including by surface name. But some of the most notable additions are in the Modify and Multiply menus. Modify adds Magnet, Shear, Twist, Bend, and two types of Tapers, all of which perform pretty much what their names imply. Figure 3 illustrates how a simple

look. Something worth noting is that since the 2.0 release, Stuart Ferguson (Modeler's author) has joined NewTek full time and is now cranking out new capabilities for 3.0 at a furious pace. Included among the new features for 3.0 are Boolean functions also known as Constructive Solid Geometry (CSG).

A Potentially Deadly Button

There is no doubt that the 2.0 release of LightWave is superb. However, there is a downside. This version of the software seems a bit more unstable than the 1.0 version was a year and a half ago. While most of the nuisance bugs of 1.0 have been fixed, 2.0 is much more likely to crash the system entirely. The first culprit is the highly useful but potentially deadly Save All Objects button, which has a bad habit of locking up the system, necessitating a reboot. I highly recommend saving your scene before using this button. Another real problem shows up if you flip back and forth between LightWave and Workbench via the switcher. LightWave tends to crash the system when loading a scene after returning from Workbench. By using Amiga-N/Amiga-M to toggle screens, the problem appears not to occur. A bug that doesn't cause a system crash but is very

news is that NewTek is toying with the idea of separating LightWave upgrades from Toaster upgrades, thereby getting all those great new features without having to wait for the rest of the Toaster.

I wish to emphasize, however, that regardless of these problems, you cannot do without the 2.0 LightWave release. There are just too many valuable features and enhancements that will dramatically increase your animation capabilities and productivity. I have but only touched on a few of them.

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bug bytes

by John Steiner

The latest in tips,
workarounds and upgrades

This Month:

- DigiPaint
- Workbench 2.0
- PageStream
- WordPerfect

Bill Carr of Denver, CO, writes to comment that the game *Castles* quits operating after 10 minutes of operation on his A3000. He contacted Interplay Productions, the software developers, and was told that there was a problem with his Amiga 3000 system. On several occasions, when he called, he was told an "Amiga support specialist" was unavailable, but would return his call. They would then fail to do so. When a vendor fails to reply to a reader, I often send a fax or a letter with a copy of the customer's complaint to the vendor so that they may have the opportunity to reply to the customer's allegations. In this case, I faxed a letter to Interplay Productions almost a month ago, but have not received a reply. If you have information that might help Bill solve his problem, let me know, I'll pass it along. [See this month's "Feedback" column for the letter from Interplay which seems to resolve Bill Carr's problem.—Editor]

products: DigiPaint 3, AmigaBASIC, A1000
re: various hangups
source: mail

I received a long letter from Rod Loisel of Hanover, NH, who reports on several problems he has encountered. Some of these problems were noted in previous columns.

Regarding DigiPaint 3, he comments that the OK and Cancel requesters are too far below the active screen area to select, thus causing loss of work. This problem has been fixed in the latest release of the program. Contact NewTek for an upgrade.

Regarding AmigaBASIC, he comments that AmigaBASIC works properly under Workbench 2.0, with the exception of the SOUND statement. I have found that it only works on accelerated Amiga systems when all fast RAM has been disabled. I haven't had the opportunity to test the function of the SOUND command.

Regarding the A1000, he comments that the A1000 isn't dead yet, and he is happy with is A1000 running the Rejuvenator board, Xetec SCSI controller with 2-52MB Quantum drives, 5MB RAM and 2MB chip RAM. He is running Workbench 2.0 and is looking for a MegaMidget Racer and a better printer.

commands: ED, EDIT
re: not working under 2.0
source: mail

Regarding ED and EDIT, Rod writes:

For those of you who have found that your EDIT 'with' files do not seem to be working under 2.0, see AC TECH 1.1 for a great example of using EDIT by 'remote control' that has saved me literally hours of work. I don't know the reason but replacing the 2.04 Version with the 3.1 version of EDIT has solved the problem for me. Also not mentioned in the TECH 1.1 article or in the sparse documentation of EDIT is the fact that in order to use a multiple command 'with' file you have to put a line with the command REWIND between each line of commands in order to start at the top of the file for the next set of commands. In about a minute and a half I can create a script to run a slideshow using the 2.0 Display command from my dh1: drive and more than 25 directories and over 700 pictures with one command "execute showmaker" and EDIT does the rest. The showmaker command file has EDIT append a custom list command to a listing of directories, then executes the file, then cleans up any files that are not pictures by various searches for files with the extension ".info" for instance. The file is sorted if necessary by the command file; LIST no longer supports the SORT option under 2.0! The last step is to type in "Display with <filename> opt t-1" and you're off. EDIT is not an easy or well-documented program to use but it's free and for the programmer can virtually write a skeleton program by itself and save hours of typing.

The new ED does not seem to work for me at all with multiple 'with' file commands. This omission is a great disappointment because the program stops at the 'end of file' on searches. Incidentally, ED version 3.1 will crash your machine under 2.04.

I am not familiar with the 'with' options in ED or EDIT. If you have a comment, especially if you have been successful using ED and the 'with' option, let me know. I'll pass it along.

Regarding ARP, Rod reports problems with 2.04, and notes that the major reason he wanted ARP under 2.04 is for its * wildcard function. He noted a program in AC TECH 1.3 called Wildstar which provided the * wildcard under 2.04. He notes that WordPerfect has a powerful macro function, and commented upon a series of checking account macros that were published in an earlier *Amazing Computing*.

product: HDBackup
program
re: unable to set archive bits
source: mail

Douglas Nelson of Omaha, NE, wrote to report a bug in the Workbench 2.04 HDBackup program which is found in the Tools drawer of a Workbench 2.04 System disk. He comments that he cannot get the program to set archive bits on the files he has selected for backup. To do this, you are supposed to select "Set Archive Bits" from the Options menu, but this appears to have no effect. The archive bits are never set. Doug writes, "I do not know whether the problem lies in HDBackup itself or in the BRU program that HDBackup runs." If you have any workarounds for this problem, or you know why it isn't operating as advertised, let me know; I'll pass it along.

product: BRU/
HDBackup and
SCSI tape drive
re: system lockup
source: Email

Paul Gittings sent Email from Australia to report a problem with BRU/HDBackup and a SCSI tape drive. He owns an Amiga 2000 running AmigaDOS 2.04, a GVP Series II SCSI Controller (gvp SCSI device Version 3.7), a Seagate 45MB disk drive and an Archive 2150S (Viper) SCSI cartridge tape drive. He uses HDBackup to backup a partition of his hard drive to tape; this seems to work since the tape drive makes various noises, and the tape is advanced. However, if he tries

to restore from the tape, the tape is rewound and it seems to be advanced a little bit, then the whole system locks up and he has to reboot. Also, if he uses the "-i" and "-h" options of BRU to get archive information or header information, the system again locks up.

He writes, "I sent a fax to GVP and Email to Commodore. I have not received a reply from Commodore but I did receive a fax from Michael Santiago in the Technical Services department in GVP. In his fax Mr. Santiago says: '... The BRU program has proven to be dated in respects to the latest hardware. An update to BRU is slated to be released. We have found that AMIBack works very well with our controllers.' If you have any comments regarding this problem, let me know; I'll pass it along."

product: WordPerfect V4.1.12

re: loading problems

source: Email

Email from David Martin told of an unusual bug in WordPerfect V4.1.12 dated 1/15/91. He writes, "A friend of mine was having trouble loading and running WordPerfect 4.1.12. It seems that every time he tried to load WP either from the Shell, Workbench or via the Tool menu it did not appear to load. Or at least it looked like it loaded, but it would *never* opened a window. Well, we reinstalled it and still the problem persisted. However, while discussing the problem, WordPerfect's window *suddenly* opened. The familiar "Untitled" window screen was up. We rebooted and reloaded WP. Every time we loaded WP it took 10 minutes to open its Window." The friends discovered that the problem was due to the setting of the current system date. The year was set to 2058. The AmigaDOS DATE command could not handle that date, although the new AmigaDOS 2.04 TIME command could). DATE would return garbage characters. All file dates were listed as FUTURE. Setting the

date back to June 18, 1992, fixed the problem. WP loaded in under 30 seconds.

While this bug is not really dangerous to data, its uniqueness earns it a place in "Bug Bytes." If you have any comments or other manifestations of this problem, either in WP or in other programs, pass it along.

product: AEHD Driver
re: workaround under 2.04

source: mail

Max Woodbury of Kennesaw, GA, writes regarding the technical information about the Applied Engineering High Density Floppy Drive that was included in the 7.2 "Bug Bytes." He writes, "While there were problems with the code fragment published, there was enough good information in the article that I could combine it with the basic capacity information about the high density diskettes to produce a driver for the AEHD that works under Amiga DOS Version 2.04. I offered to sell the code to Applied Engineering and to the company producing a replacement driver. Neither was interested in purchasing my code and both indicated that they had no plans to produce a driver of their own, at least any time soon."

"I cannot afford to give the driver away, but I would be willing to send a copy of it and the accompanying documentation to anybody who sends me \$30 U.S."

I can make no recommendation one way or the other on the performance of his software driver, and I am making this information available here to those who might be interested in obtaining the driver. If you decide to purchase the driver from Mr. Woodbury, let me know how it works out for you. I'll pass the information along.

Max TenEyck Woodbury
99 Hartley Woods Drive
Kennesaw, GA 30144

product: PageStream
re: scaling
Compugraphic fonts
source: Email

Alex Baker sent electronic mail with comments regarding the Compugraphic Fonts printing problem in PageStream. He writes, "From what I have been able to gather, which comes mostly from repeated discussions on this subject in the Soft-Logik area of the Amiga Vendor forum, the problem lies within the Compugraphic code. Evidently the Compugraphic fonts will only scale up so high, and then they fail to print. The simpler the character, such as 'I', the larger you can make them. According to Soft-Logik, Compugraphic is aware of the problem, and is working on a fix. Till then, Soft-Logik recommends using the PageStream native fonts, or PostScript fonts to do large character sizes."

"Since PageStream can use IBM style Type 1 PostScript fonts, and send the output to any printer for which PageStream has drivers, this seems to be a viable alternative for the moment. Naturally, I'd like to see the problem corrected, as the Workbench has gone to Compugraphic fonts under 2.0x, but with a few downloads of PD fonts off BBSs and CompuServe, you can have a workable solution. If worse came to worst, you could buy the PostScript equivalents of the Compugraphic fonts. However, I am not really fond of paying for the same thing twice."

"The other benefit of having used PageStream since 1.6, is that I have the old PageStream versions of Times and Helvetica, and use those for large headline work."

Bill Lawrence of Winnipeg, MB, originally reported on a similar incarnation of this problem in an earlier "Bug Bytes." You might recall, he reported that early versions of printouts from a document might print a specific large font, but that as the document became more complex, some characters might drop out in subsequent

printings. At that time, my solution was to save the document, reboot the system and reload PageStream, then reopen the document. Printing from the document in this fashion corrected the problem. Bill reported this month that he found it is not required to reboot the system, or even exit PageStream. He found that if you close the document, then reopen it before printing, large fonts are most likely to print acceptably.

product: DKB Kwikstart
re: workaround
source: Email

Dave Golden sent Email regarding the DKB Kwikstart board which allows you to mount ROMs in an A1000. He writes, "The hardware install went OK, until I installed the 2.0 and 1.3 ROMs in the board. I had left the 1.3 ROM as the default so I could still boot from my hard drive and make sure the system was OK. The plan was to then switch to the 2.0 ROM, which you can do from the keyboard, and perform the upgrade."

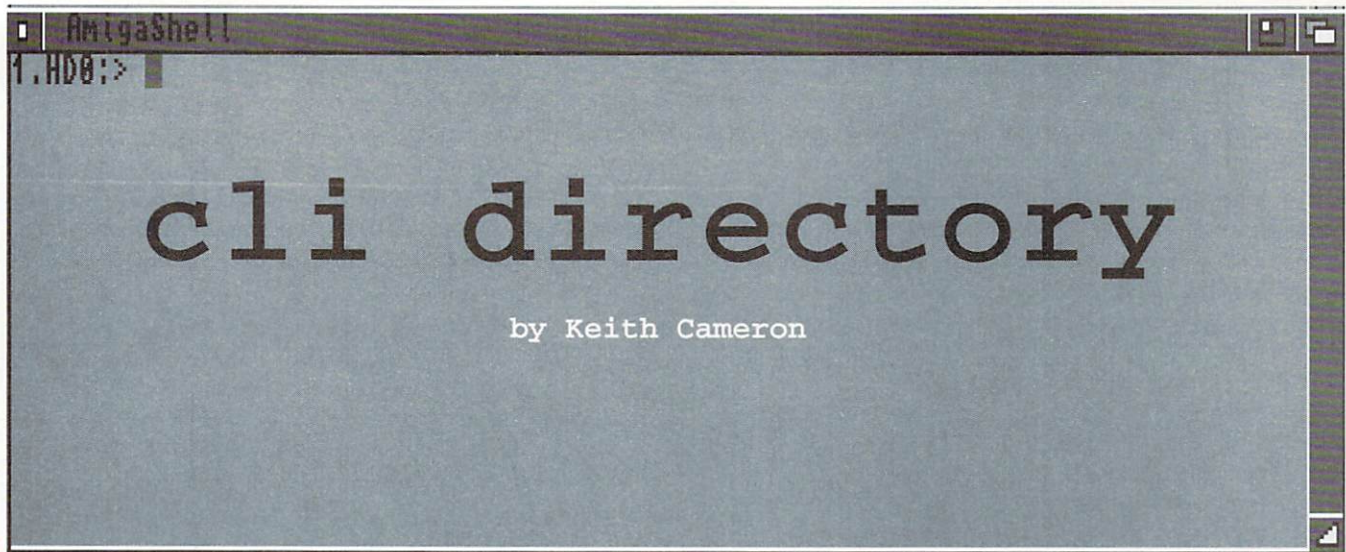
"When my machine came up with nothing but a dim LED and a green screen, I thought I had trashed it. Somehow, I got the bright idea to take out the 2.0 ROM and just try the 1.3. Amazingly, it worked!" Dave eventually discovered that the jumper that is soldered across two of the pins on the ROM is not required when installing the ROM on the Kwikstart board for an A1000.

If you have any workarounds or bugs to report, or if you know of any upgrades to commercial software, you may notify me by writing to:

John Steiner
c/o Amazing Computing
Box 2140
Fall River, MA 02722

...or leave EMail to John Steiner on Portal 73075,1735 on CompuServe; Internet mail can be sent to John_Steiner@cup.portal.com
FAX John Steiner at (701)280-0764

•AC•



As a rule, I normally try to organize each of my articles around a common theme or project. Last month, for instance, I discussed various AmigaDOS commands that provide information rather than perform operations. In the July issue, I reviewed various commands associated with using time on the computer. In another article, I discussed the use of several AmigaDOS commands that might be useful from the perspective of someone who uses a computer mainly for generating text. After checking my list of AmigaDOS commands that I had already written about and those I have yet to cover, I noticed three frequently used commands that I had somehow overlooked. Although these three commands are not thematically related, I felt it important to discuss them before proceeding with any other commands, for they can be quite useful.

The first two commands, RELABEL and RENAME, are related in purpose. Both of these are used to assign new names to objects, and they really only differ from one another in regard to what they can rename. RELABEL is used to rename a disk, while RENAME is used to rename files or directories. If you refer to their templates, you will see that both are executed in a similar fashion.

Let's begin with RELABEL. To use this command, you simply need to provide the current volume or disk name and the new name you wish to give the volume or disk, as indicated below:

```
RELABEL WORKBENCH: WORKDISK <RETURN>
```

In this example, WORKBENCH is the current disk name, and it is being changed to WORKDISK.

Although this might seem like a simple command to execute, you should be aware of some possible potholes. First, if you have two or more disk drives, you must include the colon after the current name. Try the following on your computer to see why. In my computer at the time of this writing, I had a diskette in each of my two drives. In drive df0: I had Workbench while in drive df1: I had a formatted disk named Mags (short for Magazines), which I use to store my articles. From the CLI, if I type

```
RELABEL MAGS MAGAZINE <RETURN>
```

an odd thing happens. Rather than relabeling the Mags disk in drive df1:, Workbench in drive df0: is renamed as MAGAZINE. I can check this by using the INFO command. In the far right column of information presented by using the INFO command, the names of the disks in both drives are given; that is, the volume names MAGAZINE and MAGS are given. The reason the Workbench disk was relabeled rather than the Mags disk is that I did not use a colon after MAGS. AmigaDOS naturally assumes in such a situation that the internal drive is the one being referred to. Therefore, the colon is essential when using a drive other than df0:.

Initially, I assumed that this was so because the internal drive, that is df0:, was the current directory. To check this, I made drive df1: my current directory. I then issued AmigaDOS the same command line as that above, but I received a message from AmigaDOS that "RELABEL must be given a drive or volume name." When I made drive df0: my current directory again, I expected upon executing the above command line to have the same problem that I had initially encountered. However, this time, I was given the same message; that is, "RELABEL must be given a drive or volume name." I cannot vouch that this will happen on all versions of Workbench or Kickstart, but it will obviously occur with some. The bottom line here is that the colon is vital to the successful execution of this command.

Single drive users should be aware of another thing in relation to RELABEL. Since you may be swapping various disks in and out of drive df0:, it is often prudent to refer to disk names rather than drives. Suppose, for example, that in the 'c' directory of Workbench you had

a program called Diskwipe which could erase your entire disk (I've seen such a program listed somewhere—perhaps in the Fred Fish collection). If you were to type

```
DISKWIPE DF0: <RETURN>
```

you could risk having your entire Workbench disk erased. If, on the other hand, you referred to the disk by name rather than by drive, (DISKWIPE MAGAZINE: <RETURN>) you would then be asked to insert the named disk, thereby avoiding any accidents. This is just one possibility; other scenarios can occur. In such cases, you need to try to give your disks short names, or at least names that contain no spaces. RELABEL can, of course, do this for you.

Basically, this is the extent of what RELABEL can do. Contrary to most AmigaDOS commands, RELABEL has no options, or switches, that can be enacted. All that it can do has been explained above.

As I indicated earlier, RENAME is very similar to RELABEL. In contrast to RELABEL, though, RENAME gives a different name to files and directories, as illustrated in the example below:

```
RENAME C/DELETE C/DEL <RETURN>
```

means you can't move an object from one drive to another using RENAME.

In addition to renaming files, you can also rename directories using this command. When you do so, only the name of the directory will change, not its contents. Any files which appear inside it will remain unchanged. If you do rename a directory which has an icon visible when using Workbench, be sure to rename its .info file as well. Otherwise, the directory will not be accessible should you decide to enter it from Workbench. Of course, the directory can still be entered from the CLI.

Besides renaming files and directories for organizational purposes, you might wish to rename certain AmigaDOS commands. This is especially true if you use another computer, such as an MS-DOS, at work. To avoid confusion from switching back and forth between the two systems, you could rename certain AmigaDOS commands so that they are the same as their MS-DOS counterparts, such as changing DELETE to DEL. This could reduce some of the confusion that results from using two systems.

The final command I would like to examine in this month's column just may be the most useful. SORT is one of those commands, at least for me, that is not used that frequently, but when you need it, you really need it. Basically, SORT organizes a file into alphabetical or numerical order, depending on the switch you choose. It does this by

Basically, SORT organizes a file into alphabetical or numerical order, depending on the switch you choose. It does this by checking each line of a text file and then sorting according to the initial character, or characters, of each line.

When executing this command, you must be careful of using pathways. In the above example, DELETE has been renamed to DEL and it appears in the 'c' directory. Upon examining the 'c' directory, you would discover that DELETE no longer exists, having been replaced by DEL. Thus, RENAME does not duplicate a file; it only changes its name. If you wanted to duplicate a file as well as rename it, you would need to use the COPY command.

Suppose that you wanted to rename a file as well as move it to another location. All you would need to do is RENAME and specify the pathways of the source and destination. For example, the following command line would move the DELETE command from the 'c' directory to the root directory, as well as rename it:

```
RENAME C/DELETE DEL <RETURN>
```

Since no directory has been specified for the destination file, it would appear in the current directory, which is the root directory in this situation. Likewise, DELETE would no longer exist in the 'c' directory.

If you should attempt to rename a file and move it from one drive to another, you would get a message saying something like "Can't rename c/delete df1:del." If you execute the WHY command (see last month's column), you will be told that "The last command failed because rename across devices attempted." In plain English, this

checking each line of a text file and then sorting according to the initial character, or characters, of each line. To make this work, you must separate each line or group of lines by a carriage return or line feed. To make things clearer, let me provide a detailed example.

I use this command most frequently when compiling bibliographies for historical articles which I write. As I research a subject, I will simply enter into a text file the books, periodicals, and other sources from footnotes which I believe may be helpful. Rather than break my concentration by stopping to alphabetize entries at that time, I simply enter each source after the previous one regardless of alphabetical order. When doing so, I complete each entry by inserting a carriage return. Once that bibliography is complete, I then go to my CLI window and execute the SORT command. For example, if I have a text file of unalphabetized bibliographical entries entitled HISTORY, I might then execute the following command line:

```
SORT HISTORY HISTORY-02 <RETURN>
```

In this example, HISTORY is the list of bibliographical sources, in random order, as they were entered. After that file has been saved as is, I can then sort the entries into alphabetical order and send the result to a file called HISTORY-02. I could have used HISTORY as the name of my sorted file, for it is not necessary to actually give the sorted file

a different name. I always do so, though, so that in case anything goes wrong, I have the original file to work from. Then, after getting the final file in the form I want, I can delete the previous file and rename the remaining file whatever I wish.

To make this command possible, a carriage return must be entered after each source entry; that is, each source must be separated from all of the others by a carriage return. In the above example, I make sure that I don't use a carriage return at the end of a line within a source. Instead, I allow the automatic word wrap to take me to the next line. If I inserted a carriage return at the end of each line rather than only at the end of each entry, some entries would, of course, be separated when the SORT command was executed. After the SORT has been executed, you will discover that any blank lines created by using carriage returns appear at the top of the new file. If you want a blank line to separate the entries, you will then have to insert such lines.

Newer versions of AmigaDOS allow greater flexibility in the use of this command. If you want to sort things numerically, there is a NUMERIC option available. If you want to sort according to capital letters only, there is a CASE switch. Older versions do not allow such flexibility. If you have text that mixes numbers and letters when using such versions, the text will be sorted with numbers appearing first, followed by letters. Also remember when using numbers that 11 will be placed before 2. To avoid this, use 0 before single digit numbers. Likewise, if you are ordering numbers that go into the hundreds, make sure that each digit is represented (002, for example, rather than 02). Otherwise, 199 will be placed before 2.

Each of these three commands is quite useful in its own way. Simply remember that RELABEL renames a volume or disk while RENAME gives a file or directory a new name. Additionally, RENAME can move files as it renames them. Finally, SORT organizes text files both alphabetically and numerically as long as each line ends with a carriage return or line feed.

•AC•

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World of Commodore Amiga—Sydney '92

OpalVision, Aladdin, and more are premiered
for thousands of Australian Amiga users

Microsoft, Sony, and others joined Commodore in this year's World of Commodore Amiga, July 3-5, in Sydney, Australia. Australian exhibitors shared company with Amiga developers from Europe and the United States to continue the WOCA as an international exhibition. Over 30,000 attendees took advantage of the once-a-year event and were greeted by light shows, new products, and some amazing bargains.

Exhibitors were especially happy with the results. "We achieved all our goals in sales, dealer marketing, and just meeting old friends," claimed Don Sforcina, Managing Director of Color Computer Systems. A spokesperson for Great Valley Products stated, "The Amiga remains a vibrant market throughout the world. The success of the Australian World of Commodore Amiga continues to underline the reasons for our commitment to the Amiga." Mike Loader of Soft-Logik Inc. stated in a telephone interview, "We were really busy. It was a good show with people who were very interested. Our booth was packed the entire time."

The Show Floor

Color Computer Systems P/L, a distributor of Amiga products, held the world release of Innovision's *Broadcast Titler 2* with 35ns pixel resolution. Broadcast Titler 2 promises true broadcast titling capability. The new titling software features new transitions, such as the "Shuffle." The Shuffle moves a line of text up the screen to reveal the next line in the sequence.

Color Computer Systems also released Digital Processing Systems' Personal PAL TBC and Personal PAL Vector Scope. Electronic Design shared the CCS booth by demonstrating the Video Connector, Y-C Splitter, the PAL Y-C Splitter, and a PAL Sirius Genlock. Their newly designed 24-bit realtime framegrabber, FRAMESTORE, was also released. Electronic Design sent Stefan Kramer and Petra Dicke to provide added support for the show. Frank Hermesdorf of European Software Distributors also helped promote ED products. According to Don Sforcina, CCS Managing Director, the European guests were very impressed with the WOCA. "They liked the format of the show in that 90 percent of the stands were about serious computing and not just games. Color Computing Systems will definitely be there next year."

Martha Moore, Operations Manager for the Asia/Pacific office of The Disc Company Pty. Ltd., used the WOCA to inform users of new upgrade offers for *Maxiplan* and *KindWords*. *Maxiplan4* is available, in Australia, as an upgrade from any Amiga spreadsheet, while *KindWords3* can be upgraded from any Amiga wordprocessor. *Maxiplan4* contains over 22 major improvements with more graphs, charts, and presentations. It contains a variety of data viewing modes as well as the ability to create up to 50 charts per spreadsheet, ARexx support, and built-in macros.

KindWords3 utilizes the new Human Interface Protocol™ and claims over 25 im-

provements such as automatic text-wrap, improved color IFF graphics, and use of up to 255 fonts per document. Other promised new features include an improved dictionary, a stronger thesaurus, faster typing speed, plus word, paragraph, line, and page counts. The Disc Company also used this opportunity to show the products from their newly merged company, Activation.

Fordray Manufacturing Pty Ltd. promoted their line of Neriki television products of Amiga genlocks and other video equipment. The Neriki Image Master GL1187C features a full 5.5 MHz bandwidth in a rack-mounted case. The Neriki Desk Top GL1189 offers quality features with desktop convenience at a lower price. Both models operate from any Amiga 500 or 2000 model, at high resolution with encoded capability of 600 lines PAL or 500 lines NTSC, support all interlace

**"We achieved all our goals
in sales, dealer marketing,
and just meeting old
friends."**

Don Sforcina of CCS

modes for video production, have PAL and NTSC models, Key Fades over backgrounds, are self-powered, and have fully adjustable dissolve controls.

Other Neriki announcements included *Video Tools on Tap*, a new video software package. *Video Tools on Tap* will be released in October and is promised to be a step up for videophiles. Features include Auto detect for PAL and NTSC software, Audio tone, screen overscan support, vertical and horizontal flips, vertical and horizontal adjustments from the keyboard, variable timing for fade up and fade down, Auto detect for illegal colors, repair of illegal colors in IFF format, SMPTE and EBU color bars on request, as well as blue color bars, black screen, and gray scale on request. Utilities and effects are available through a Hot Key combination and can run in the background. Of course, ARexx is included and the product promises a superior instruction manual to provide users with a better understanding of both the features and their application for a more professional end result.

The *Neriki CE100 Color Coder* promises users a cost-effective means of getting quality results from their computer to a video recording device or a number of video monitors. The *Neriki Color Coder* provides internal controls for R-Y and B-Y black balance, RGB levels, chroma level for both composite video and Y-C, burst position, subcarrier frequency, and quad balance.

Unitech Electronics Pty. Ltd displayed the Kickboard Plus, which is designed to fit the A600HD, A500 Plus, A2000, and CDTV. Billed as the absolute thinking person's upgrade, the Kickboard Plus is a three-way ROM sharer

board that enables the user to switch from any version of the Kickstart ROM.

An Amiga 500 was switched from 1.2 to 1.3 to 2.0—while the Amiga was powered up—during a demonstration at Unitech's booth. All three ROMs and the Gary chip are protected against any electronic damage. The Kickboard Plus comes with a one-year warranty.

Lascelles Productions, makers of Amiga and CDTV educational software, displayed *The Connoisseur Fine Art Collection*, the first interactive art gallery for CDTV. It's a collection of 500 works of fine art by over 100 artists, complete with informative text on each painting, sculpture, period, and artist. The user can choose from nine periods of art. Interactive and automatic display modes are also featured. A 54-floppy disk Amiga version is also available.

Lascelles also demonstrated their popular education programs for the Amiga, *Fractions!* and *Back to Basics*. *Back to Basics* teaches math and spelling and is aimed at the 7 to 14-year-old level. *Fractions!* concentrates on simplifying, multiplying, dividing, and adding fractions.

GSOFT Pty Ltd. was showing their line of Amiga products. Super Sound is GSOFT's major breakthrough in Amiga sound reproduction. Compact and simple to install, Super Sound plugs into the normal sound output on the A500, A2000, A2500, or A3000 computers. All cables are supplied. With the twist of a knob, Super Sound provides a selective high frequency boost, which adds up to a significant increase in audible sound quality.

Audio Engineer Plus is a stereo digital sound sampling and editing system for the Amiga. Record, edit, and enhance sound in the Amiga's memory using the included GSOFT *Audio Imager*. Features of *Audio Engineer Plus* include a large, stereo oscilloscope display with a real-time zoom, four times oversampling for improved sound quality, loop sequencing, pitch/time compress, compression formats for saves, resample options, and more. Extra programs, such as *Audio Imager* and *Audio DJ*, are included.

The Answer is an Amiga-based telephone answering machine that allows your computer to answer the phone, talk to the caller, and record messages with a normal audio digitizer. The Answer's config program is where the user controls message management and chooses the sound files that will be used for the various announcement messages. The runtime module is a small title bar window that pops open when a call is received.

Presenter Prompters, a division of MRVP International, proudly showcased *Presenter 500*, a new teleprompting system developed for the Amiga. It operates on any Amiga with 1MB of memory, supports any Amiga character set, reads PC-compatible disks, displays text in variable smooth scroll or page by page. *Presenter 500* is currently available in English, French, German, Spanish, and Italian.

TUPsoft released a new product at the show called *LinkUP*. *LinkUP* allows the user to

backup, restore, and print data from a Sharp Electronics Organizer to the Amiga. After many requests, TUPsoft has added SuperBase import/export capabilities. *Kill Da Virus*, TUPsoft's biggest selling product, was also displayed. Kill Da Virus has been the leading virus killer in Australia for the past two years. TUPsoft also represents the products for United Graphic Artists of The Netherlands. Among the UGA products are *PowerPacker*, *PowerMenu*, *PowerBase*, *PowerWaves*, and a disk magazine called *NewsFlash*.

Contact 2.0, a contact manager and free-form database, is Desktop Utilities' latest release. Some of the new features include an ARexx menu command, clipboard support, a new printer setup, a new selection menu, AmigaDOS 2.0 compatibility, and much more.

Power Computing Ltd had a number of hardware and software products at the show. The *Power Scanner* features 100-400 DPI, 64 grey scales, and a thru port for a printer. Full-screen scanning and editing software is included. Power also teamed up with Cachet of Germany for an improved disk backup system. The PC800B drive can be used with X-Copy Professional Cyclone backup software. A dual drive features a built-in blitz copier, a virus blocker, anti-click, and a PSU. The dual drive requires less than half the power of a normal floppy drive. A 128MB Magneto Optical hard disk is also available from Power. Power also prides itself on having memory expansion boards for practically every Amiga computer model.

Left Side Software also demonstrated a multiple kickstart board with the Pick Which Kick Quick. This device will hold three ROM sets which the user operates electronically with the mouse and joystick buttons.

Australia's OpalVision

OpalVision received its world premiere in Sydney. This was justified since this new 24-bit graphics hardware and software combination was created by Opal Technologies of Sydney, Australia and is marketed in the U.S. by Centaur. The central piece to *OpalVision* is a 24-bit frame buffer and display board. The internal version occupies the Amiga 2000 or 3000 video slot. The external version is connected to the RGB slot of any Amiga. Both come with 1.5MB of display RAM, automatically configure to PAL or NTSC, and include a VLSI Microcode Graphics Co-processor for transitional effects and smooth scrolling between screens.

The motherboard concept allows *OpalVision* to be augmented with additional modules. Currently planned modules include *OpalVision* Framegrabber/Genlock module, *OpalVision* Scan-rate Converter, *OpalVision* Quad-input Production Switcher, and *OpalVision* Roaster Chip. The expansion modules connect directly to the *OpalVision* motherboard to decrease signal loss. Centaur promotes the complete design with all the add-ons as "a complete 24-bit Amiga desktop video system."

OpalVision FrameGrabber/Genlock module offers a 24-bit framegrabber, genlock, composite decoder, and composite encoder. Compatibility with S-VHS or HI-8 is included. The release information states *OpalVision* will "instantly freeze and save multiple video frames or sequences as 24-bit images without the use of still frame or signal preparation." All features are software controllable.

The *OpalVision* Roaster Chip allows real-time processing and morphing of live video, *OpalVision* images, or regular Amiga-generated images when combined with *OpalVision*'s Frame Grabber / Genlock module. Centaur has promised a wide variety of special effects including spherical wraps, flips, scales, and more in real time. The picture-in-picture capability allows the display of 24-bit video in a scalable window on the workbench. Software is included to design your own effects and sequences plus a library of dissolves, wraps, wipes, etc.

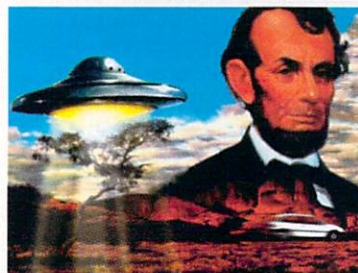
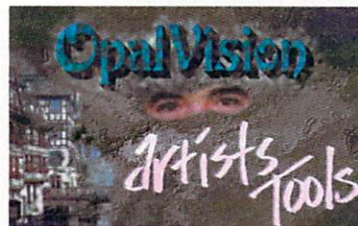
OpalVision Quad-input Production Switcher is a fancy name for an external optional device connected to *OpalVision* Framegrabber / Genlock which allows switching of video from two sources selected out of four possible inputs. Each input can be either S-VHS, HI-8, or composite video. It allows the user to perform all the features available through the special Roaster Chip with two video sources.

The *OpalVision* Scan-rate Converter connects to the *OpalVision* motherboard to provide solid high resolution and 24-bit images on any multi-scan or multi-sync monitor. It will even perform as an independent 24-bit frame buffer for two-screen applications.

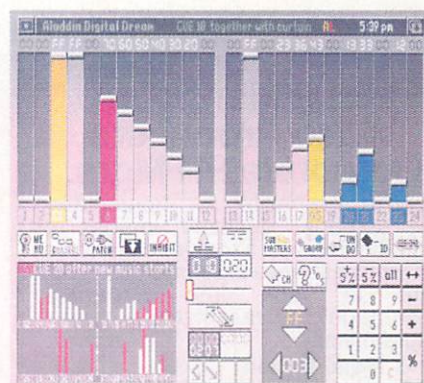
The second part of the *OpalVision* package is the software. *OpalVision* comes complete with *OpalPaint*. Centaur calls their newest entry into 24-bit paint programs, "An unequalled painting and image manipulation program." To prove this they have combined an assortment of advanced features—from the ability to view your image "thumbnail" for instantly recognizing your 24-bit creations in the load or save file requesters, to the virtual memory that allows users to save brushes, portions of the images, etc., to hard disk and save memory. In the unique features section, Centaur has promised adjustable nozzle brushes, smooth air brushes, pencils, charcoal on a variety of "surfaces" such as smooth, rough, watercolor paper, and more. The advanced material for this paint program offers a lot of utility plus ARexx support. *OpalVision* is planned for release in the U.S. by mid-August.

Aladdin Lights Fantastic

Phoenix Microtechnologies Pty Ltd., the



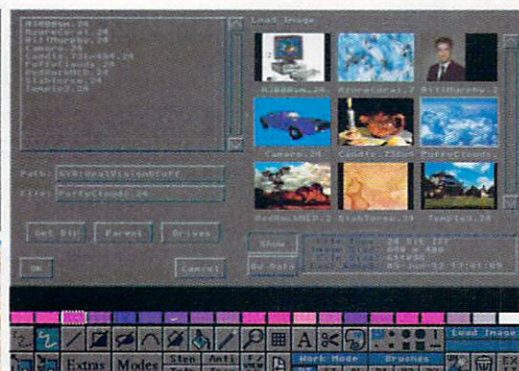
Promising a wide variety of features for the 24-bit artist and the videophile, *OpalVision* premiered in its native Australia.



Aladdin's introduction by Phoenix Microtechnologies Pty Ltd. gives the Amiga control of lighting and special effects for theater, television, concerts, and more.

creators of the Phoenix board to allow Amiga 1000 owners to upgrade to Amiga 2000 power, announced *Aladdin*, the first Amiga-driven lighting control system. *Aladdin* is a fully programmable system for controlling, sequencing, and cueing lights and other equipment for use by theaters, television studios, presentations, concerts, and other applications requiring high-quality precision control of effects. *Aladdin* will handle up to 48 channels for multiple automatic and manual cross fades, blind preset programming, inhibit function, submaster control, synthesized voice prompts, and reminders. *Aladdin* can be installed in different styles in the A500 to the A3000.

Aladdin incorporates industry standard "UAITT DMX512" output and controls standard Digital Multiplex dimmer racks. The main screen enables the operator to directly control 24 single or multiple sets of effects by slide control directly by the mouse, with the key pad, or by preset programmed design. *Aladdin* also provides five 20-step chasers with variable level settings and individual times for each step. To illustrate the power of *Aladdin*, Phoenix played lighting effects demonstrations across the ceiling of the exhibition hall throughout the three-day expo.



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The Americans

American companies were also in residence. Great Valley Products, New Horizons Software, Free Spirit Software, ICD, Microsoft, and more used the exposition to demonstrate new products and talk with their Australian users.

GVP brought their large booth to the event equipped with their latest releases. The **IO Extender** (an expansion card with two high speed multifunctional serial ports with 16-byte hardware buffers and a configurable bi-directional serial parallel port), the **A530 Turbo** hard drive and memory expansion unit for A500 users, **The Digital Sound Studio**, **Mirage** (a soon-to-be-released 24-bit paint program), and their high performance RGB graphics card—**EGS**—were all shown to the Australian users for the first time.

Free Spirit Software not only used their trip to Australia to demonstrate their line of **Barney Bear** software, but they made an agreement with the Educational Department of South Australia. The agreement allows them to market **Satchel Software, Inc.** products created by the Angle Park Computing Center division of the Educational Department in North America. Titles include **Dr. Spellingstein**, **Math Booster**, **Granny's Garden**, **Picture Book**, and more.

ICD Inc. returned to the Sydney show to demonstrate **KickBack**, a Kickstart ROM switcher. The ROM switcher fits with no soldering required in A500 to A2500 machines and allows users to switch from 1.3 ROMs to 2.x ROMs with a simple keystroke.

Soft-Logik Publishing Corporation used the exposition to promote **PageStream 2.2**, **Hotlinks Editions**, **Pageliner**, and **BME**. New Horizons Software also displayed their current line of products with **ProWrite** and **DesignWorks** leading the list. A spokesperson for New Horizons was very pleased with the reaction of the Australian users.

SCALA Inc. arrived with **SCALA 2.0**, which now includes sound. Several hundred copies of the program were sold to a very enthusiastic crowd.

Microsoft had their first large booth at the WOCA. Microsoft was on hand to support the large number of Commodore MS-DOS machines Commodore Australia sells every year. Meanwhile, Sony was also on hand to display a variety of display and video products suitable for the Amiga market.

Once again, The World of Commodore Amiga in Sydney not only gave Australians a way to appreciate their Amiga and see the newest advancements from around the world, but it gave developers from around the world an opportunity to speak with dedicated Amiga users about their different needs and requirements. These opportunities have assured the World of Commodore Amiga in Sydney a position as an annual event anticipated and attended by many.

The next World Of Commodore Amiga will be held in Pasadena, CA from September 11 to 13.

•AC•

WOCA Sydney exhibitors

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THE AMIGA IS ONE OF THE MORE POWERFUL graphics workstations available on the market today. Its ability to manipulate graphics quickly with the Blitter is unmatched by just about any other computer system costing under \$10,000. However, the custom chips are beginning to show their age. While five years ago, having 16 colors in high resolution, or 32 colors in low resolution, was quite impressive, today it's not quite the same. Nevertheless, there are ways to increase the number of apparent colors on the display. One is to spend at least a few hundred dollars on a frame buffer. While this is the preferable solution, all the frame buffers currently available are incompatible, to some extent, with each other, and with software already on the Amiga market. A less expensive method, and one that is compatible with all Amigas, is to dither the already available colors.

What Is Dithering?

Dithering, in concept, is a simple technique. One places different colors together to create an illusion of a new color. This method is somewhat similar to the traditional artist's mixing of paint to produce new colors. On the Amiga, one would "mix" two colors to produce a new one by placing two pixels of different colors adjacent to each other. Since the pixels are so close to each other, the human eye mixes the two colors together to create one new color. For example, if we wanted to draw a line with a dithered color, we would have two colors alternate pixel by pixel. Fortunately for us, the Amiga has built-in routines that make this job almost painless:

```
SetAPen(Win^.RPort^, FirstColor);
SetBPen(Win^.RPort^, SecondColor);
SetDrMd(Win^.RPort^, Jam2);
SetDrPt(Win^.RPort^, BITSET(0AAAAH);
```

```
Draw(Win^.RPort^, x, y);
```

What we've done here is set the foreground pen to FirstColor and the background pen to SecondColor, and set the drawing pattern to an "on off on off" sequence. The SetDrMd() command tells the computer to use the B Pen instead, not drawing anything for the "off" bits. The line we've drawn with Draw() will have FirstColor and SecondColor alternating on a pixel-by-pixel basis, giving us an apparent new color. To color in a surface area of the screen (like a rectangle), we have to define a pattern. It may look something like this:

```
10
01
```

The idea is that all the vertical and horizontal neighbors of a pixel have a different color, while the diagonal neighbors share the same color. To create the pattern, we might do something like this:

```
VAR
  Pat : ARRAY[0..1] OF CARDINAL;
...
Pat[0] := 0AAAAH;
Pat[1] := 05555H;
```

Modula-2

Part I: Dithering primitives in Modula-2 with this innovative program.

by Michal Todorovic

The first part of the pattern has an "on off on off" sequence, while the bottom part has an "off on off on" sequence. To perform an operation like a RectFill with dithering, we'd do this:

```
SetAPen(Win^.RPort^, FirstColor);
SetBPen(Win^.RPort^, SecondColor);
SetAfPt(Win^.RPort^, ADR(Pat), 1);
SetDrMd(Win^.RPort^, Jam2);
RectFill(Win^.RPort^, x1, y1, x2, y2);
```


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How Many Colors Do I Get?

How many colors can we get using this method? Theoretically, on a screen with 16 colors, we can get a total of 256 colors—240 dithered colors with 16 “pure” colors. However, in reality, the number is less than this. When we mix together the two colors, blue and green, we get almost the same result regardless of whether blue is used first. This happens to be the case with all color combinations. Since each dithered color has two representations in our list (blue-green or green-blue, for example), we have only half the number of unique dithered colors than we originally thought. As a result, the number of unique dithered colors is halved to 120 on a 16-color screen. Unfortunately, if a palette is not chosen carefully, many of the remaining dithered colors could be indistinguishable from each other. Nevertheless, we get a practical upper limit of about 136 colors from a 16-color screen. Here's the number of potential dithered colors for the rest of the Amiga's resolutions—not including the base colors:

2 Colors: 1 Dithered Color
4 Colors: 6 Dithered Colors
8 Colors: 28 Dithered Colors
16 Colors: 120 Dithered Colors
32 Colors: 496 Dithered Colors
64 Colors: 2016 Dithered Colors

I'd like to point out here that the extra half bright mode (64 colors) is the most susceptible to color duplication since the latter half of the palette is just the first half at half intensity. Also, this method of dithering is almost completely useless in HAM (hold and modify mode). A more sophisticated dithering algorithm would be necessary to take proper advantage of that mode.

The Down Side

This brings us to the disadvantages of dithering—there had to be one; nothing comes free. On the edges of a dithered range, we get a bleeding, or a fringing effect. This bleeding effect is less noticeable in high resolution than in low resolution, but if one looks carefully, it is there. Dithering is less effective when only small areas are filled in with the color; it still works, but the impact is dampened. If a palette is not chosen wisely, the number of unique, apparent colors can drop significantly. The most obvious down side, and the most significant one, is that dithering can reduce the effective resolution of the display. It no longer takes just one pixel to represent any color, but as many as two—using the method I've outlined. If relatively large areas are filled in with dithered colors, there would be little or no loss of resolution; however, in other cases, there can be a loss.

The Code

Now comes the question of how to implement these ideas. My main goal in creating dithered drawing routines was to make their introduction into my code as transparent as possible. This meant that, at best, I'd only have to do a search-and-replace of the calls to the Amiga graphics library, and replace them with calls to the new routines. First of all, the dithered colors have to be stored in some fashion. In my code I discovered that I had used a CARDINAL type to store pen color numbers. However, only the first few bits are ever used; since I work in high resolution, only the first four bits are ever set. Instead of creating a second variable to store another color that was to be dithered with the first, I encoded the two colors into the original variable. The upper eight bits of the variable would store the value of color 0, while the lower eight bits would store the value of color 1.

While this limits the palette of “pure” colors to 256, I would probably use a dithering technique only if I had fewer than 256 colors available to me, at least for my applications, so this did not pose any problems. Besides, there is no current Amiga resolution that supports more than 64 “real” colors anyway. Next, I substituted all calls of SetAPen, Move, Draw, RectFill, and AreaEnd with my own equivalents that properly interpret my coded dithered color number. This allows the dithered calls to replace the system calls directly, providing an almost transparent implementation. Here's how we set the current pen color:

```
PROCEDURE DSetAPen(rp : RastPortPtr;  
                  pen : CARDINAL);  
BEGIN  
  pen0 := SHIFT(SHIFT(pen, 8), -8);  
  pen1 := SHIFT(pen, -8);  
  
  SetAPen(rp^, pen0);  
END DSetAPen;
```


Using the SHIFT command, we extract the two pure colors that make up the dithered color. We store them in the two global variables pen0 and pen1, which are used in later procedure calls. We also set the current pen to pen0. Here's how we draw the line:

```
PROCEDURE DDraw(rp : RastPortPtr;
               x, y : INTEGER);
BEGIN
  GetOld(rp);

  IF (pen1 <> pen0) THEN
    SetAPen(rp^, pen0);
    SetBPen(rp^, pen1);
    SetDrPt(rp^, LPat);
  END;
  Draw(rp^, x, y);

  SetOld(rp);
END DDraw;
```

GetOld() stores all the rastport settings so we can restore them later. First we check if pen1 is not equal to pen0; if pen0 and pen1 are the same, then we're dealing with a pure color, and we don't have to fool with the drawing pattern, so we can still support drawing patterns on pure colors. If we are dealing with a dithered color, then we set up the rastport as previously discussed. Next we use a call to the Amiga graphics routines to draw our line. Finally, we restore the old rastport settings.

The Summary

Although there are more sophisticated methods of dithering, the simple method I've outlined here is quite useful, and is the basis of the other techniques. It's a relatively easy way to increase the already formidable graphics capabilities of the Amiga.

Listings

```
DEFINITION MODULE DitheredDrawing;

FROM Rasters IMPORT RastPortPtr;
FROM SYSTEM IMPORT ADDRESS;

TYPE
  PalType = ARRAY[0..64] OF ARRAY [0..2] OF INTEGER;
  PalTypePtr = POINTER TO PalType;

PROCEDURE DDraw(rp : RastPortPtr;
               x, y : INTEGER);

PROCEDURE DRectFill(rp : RastPortPtr;
                  x1, y1,
                  x2, y2 : INTEGER);

PROCEDURE DAreaEnd(rp : RastPortPtr);

PROCEDURE DSetAPen(rp : RastPortPtr;
                  pen : CARDINAL);

PROCEDURE DSetDPen(rp : RastPortPtr;
                  p0, p1 : CARDINAL);

END DitheredDrawing.

IMPLEMENTATION MODULE DitheredDrawing;

FROM Rasters IMPORT RastPortPtr;
FROM Drawing IMPORT Draw, Move, RectFill, SetAPen, SetAfPt,
SetBPen,
SetDrPt, WritePixel;
FROM Areas IMPORT AreaEnd;
FROM SYSTEM IMPORT ADDRESS, ADR, SHIFT;

(* In order for these routines to work properly, Jam2 mode
must be turned on*)
```

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```
VAR
  Pat : ARRAY[0..1] OF CARDINAL;
  LPat : BITSET;
  pen0, pen1 : CARDINAL;
  oldf,
  oldb,
  oldptsz : CARDINAL;
  oldpat : ADDRESS;
  oldlnt : BITSET;

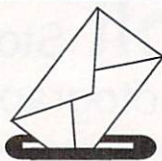
(* ***** *)
(* Gets the old RastPort settings *)
(* ***** *)
PROCEDURE GetOld(rp : RastPortPtr);

BEGIN
  oldf := CARDINAL(rp^.FgPen);
  oldb := CARDINAL(rp^.BgPen);
  oldptsz := CARDINAL(rp^.AreaPtSz);
  oldpat := rp^.AreaPtrn;
  oldlnt := rp^.LinePtrn
END GetOld;

(* ***** *)
(* Restores the old RastPort settings *)
(* ***** *)
PROCEDURE SetOld(rp : RastPortPtr);
BEGIN
  SetAPen(rp^, oldf);
  SetBPen(rp^, oldb);
  SetDrPt(rp^, oldlnt);
  SetAfPt(rp^, oldpat, oldptsz)
END SetOld;

(* ***** *)
```


MOVING?



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```
(* Draw replacement *)
(*****)
PROCEDURE DDraw(rp : RastPortPtr;
               x, y : INTEGER);
BEGIN
  GetOld(rp);

  IF (pen1 <> pen0) THEN
    SetAPen(rp^, pen0);
    SetBPen(rp^, pen1);
    SetDrPt(rp^, LPat);
  END;

  Draw(rp^, x, y);

  SetOld(rp);
END DDraw;

(*****)
(* RectFill replacement *)
(*****)
PROCEDURE DRectFill(rp : RastPortPtr;
                   x1, y1,
                   x2, y2 : INTEGER);
BEGIN
  GetOld(rp);

  IF (pen1 <> pen0) THEN
    SetAPen(rp^, pen0);
    SetBPen(rp^, pen1);
    SetAfPt(rp^, ADR(Pat), 1);
  END;

  RectFill(rp^, x1, y1, x2, y2);
```

```
SetOld(rp);
END DRectFill;

(*****)
(* AreaEnd replacement *)
(*****)
PROCEDURE DAreaEnd(rp : RastPortPtr);
VAR
  dummy : INTEGER;
BEGIN
  GetOld(rp);

  IF (pen1 <> pen0) THEN
    SetAPen(rp^, pen0);
    SetBPen(rp^, pen1);
    SetAfPt(rp^, ADR(Pat), 1);
  END;

  dummy := AreaEnd(rp^);

  SetOld(rp);
END DAreaEnd;

(*****)
(* SetAPen replacement *)
(*****)
PROCEDURE DSetAPen(rp : RastPortPtr;
                  pen : CARDINAL);
BEGIN
  pen0 := SHIFT(SHIFT(pen, 8), -8);
  pen1 := SHIFT(pen, -8);

  SetAPen(rp^, pen0);
END DSetAPen;

(*****)
(* Set pen0 and pen1 directly *)
(*****)
PROCEDURE DSetDPen(rp : RastPortPtr;
                  p0, p1 : CARDINAL);
BEGIN
  pen0 := p0;
  pen1 := p1;

  SetAPen(rp^, pen0);
END DSetDPen;

BEGIN
  Pat[0] := 0AAAAH; (* On off on off sequence *)
  Pat[1] := 05555H; (* Off on off on sequence *) LPat :=
  BITSET(0AAAAH);
  (* On off on off sequece *) END DitheredDrawing.
```

•AC•

Please Write to:
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c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

In the second installment of this two-part article, the author will discuss the use of a color match algorithm. Look for Part II of Dithering in Modula-2 in the next issue of Amazing Computing.

COPY PROTECTION, an issue we love to hate, dates way back to the early days of personal computing—the Apple II/Commodore 64 era, and even before. Software piracy, the illegal practice of distributing copies of commercial software, cost developers a great deal of money in lost software sales. As a result, many developers purposely encoded errors and other disk anomalies into their products to prevent unauthorized copying. Off-disk protection such as code wheels or documentation keyword checks soon appeared too.

Now it's a decade later and copy protection remains with us, thanks primarily to continued software piracy. While the off-disk variety is the norm for most other modern computers (IBM/Macintosh), the Amiga continues to suffer from disk copy protection, perhaps due to its unfair "game computer" image. This prevents not only hard disk installation but also making essential backup copies in case something dreadful happens to the original disk(s). Even off-disk protection methods become annoying if they're used excessively.

Enter archival utility programs. They allow users to duplicate protected programs by either removing the protection or somehow reproducing it on the backup copy. Although the unscrupulous may also benefit from them, the intended purpose is to protect legitimate users' software investments.

Because most Amiga games—I'll use the word "games" from here on, as it's the only category of software really protected anymore—have been protected ever since there was an Amiga, numerous archival programs surfaced over the years including *Marauder II*, *RawCopy*, *Project D*, and *Copyright*. A host of others, both good and bad, have also emerged.

Maverick V3, a lesser-known archival utility, is one of the most recent to hit the market. Version 1 was originally released in 1990 as the successor to the legendary C-64 version of *Maverick*. Thankfully, this latest version continues the notable tradition of power plus simplicity. While some products of this nature tend to lead you on with grandiose promises to copy anything and everything, *Maverick* is an excellent, no-nonsense product that really delivers.

First, you'll discover that setup is a breeze. The *MaverickHDIInstall* program easily copies everything to your hard disk. You also can run *Maverick* from the single unprotected floppy. It works with any Amiga, is compatible with AmigaDOS 2.0, and multitasks correctly. Although a 512K RAM single drive system suffices, *Maverick's* memory-hungry nature requires 1.5MB for

Maverick V3

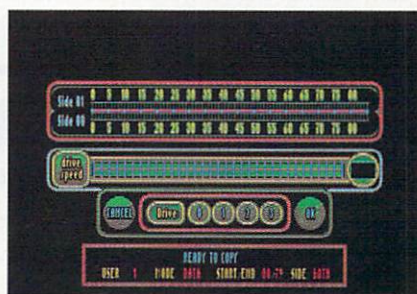
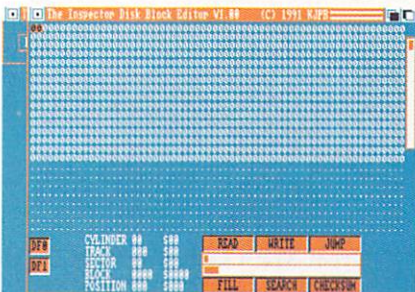
An Archival Utility System for the Amiga

by Henning Vahlenkamp

optimum performance, and a second drive couldn't hurt. The main screen is the heart of the *Maverick* system from which all other features are accessed. While it doesn't resemble typical Amiga screens with menu bars and pull-down menus, dialog boxes, movable windows, etc., its clean, hi-tech style, designed by an artist, makes for straightforward navigation of the program. A cluster of 11 buttons occupies the center of the screen. The upper three buttons control parameter selections. What's a parameter anyway? Well, it's a custom routine that patches the backup copy to eliminate protection or duplicate it. Each of the approximately 400 included parameters enables the copying of one specific game. And yes, they really do work. Pressing one of the three buttons displays a list in the above window of parameters in that particular category. The categories are "HyperCopy" (unprotected games), "Parameters" (deprotects or uses custom copiers for non-standard disk formats), and "OverRide" (deprotects, allowing hard drive installation).

You can activate any combination of buttons and scroll through the resulting lists or use the search window to hunt for a parameter by typing in the first four letters. Besides disk protection, some parameters even remove documentation protection, but then *Maverick* asks you to type a word from the manual—a reasonable way to deal with potential piracy. As a bonus, *Maverick* will even dump the parameter list to your printer.

You may think parameters are rather awkward. After all, if your particular game isn't listed and the nybblers can't copy it, you're out of luck—at least until the next parameter update. Some other copiers claim to get around this dilemma by working without parameters through software and/or hardware combinations. They promise virtual 100-percent effectiveness. Be wary of such promises. The truth is that disk copy protection is so diverse and sophisticated that no universal copier could possibly deal with every single protection scheme of every single game. The lesson here: parameters are the reliable way to go.



Maverick's clean, hi-tech style makes it easy to use.

Unfortunately, disk protection has evolved to the point where some programs simply can't be copied with software alone. This is the case with long-track schemes which squeeze far more data per track than normal. Fortunately, Software Support came up with an elegant solution—the Backup Buddy Disk Drive, a normal 3.5-inch external drive they modified with a speed control box. With it, you slow down the drive to the prescribed speed, enabling the parameter to write the long-track. Since only a handful of the parameters require Backup Buddy, spending the \$149.95 for it is a matter of personal circumstances.

Once you select a parameter, the copy screen appears. Here you can select source and target drives plus check or set drive speed (necessary for Backup Buddy parameters). At the top is a track gauge to monitor copying progress. Just pop in your disks and click "OK" to start copying. Some OverRide parameters require a Key Disk Decoder after they finish executing. Simply follow the manual to run the Decoder, select your game, and be patient; the Decoder performs slow, complex manipulations on the disk, but it does work.

There are also three general purpose copiers: "U1," a standard data copier; "U2," an index sync nybbler; and "U3," a standard sync nybbler. U1 replaces the AmigaDOS DiskCopy while U2 and U3 may successfully duplicate protected disks that don't have parameters. All copiers use the same copy screen.

Next on the main screen is the "User Control Center" button. From the UCC, advanced users can program and load/save the U-copier settings. Settings include sync, disk side, starting/ending cylinder, nibble/data, and source/target disks. Novices needn't

venture to the UCC to utilize Maverick effectively.

Clicking on "Info" with the left mouse button shows version and author names, while clicking with the right brings up a configuration box with loadable/savable settings. Options here affect Maverick's general operation. Users with limited memory will appreciate the ability to dump screen and parameter data not currently in use. Other options include data compression during copying (also for those with limited memory), write verify, automatic parameter listing, and Amiga requester toggles; source and target disks; plus DMA and step delay adjustments for advanced users.

The "Expansion" button serves as the gateway to future add-on Maverick modules. Currently in Version 3 there are two such modules, KillDFX and The Inspector. KillDFX searches for and then removes all explicit references to DF0: on the backup disk, making certain games hard disk installable. The Inspector, which also runs independently from its own drawer, is the last major Maverick feature. The final two buttons are "CANCEL" to clear all selections and "EXIT Maverick" to quit.

The Inspector contains three utility programs in one: block, track, and file editors. The biggest difference among the three concerns the way data is treated: as blocks, entire tracks of raw MFM—long-tracks may be manipulated with Backup Buddy—or files in linked blocks. Inexperienced users, beware, because it's all too easy to ruin your disk with a single mistake. On the other hand, Inspector's abilities read like a power user's wish list. It has just about every disk-hacking feature you could want, such as read/write, search, replace, fill, jump to link, edit, index

and sync functions, speed control, checksum calculation, and a help key. Like Maverick itself, Inspector works intuitively so you don't have to check the manual constantly. You might consider erasing your old public domain disk editors after using Inspector.

Speaking of the manual, there's little to complain about. Within its 24 pages is everything you need to know about Maverick, organized in a clear, logical manner. All features are documented well. What more could you ask? Nevertheless, it's obvious that most of the development money went into the software; the package is merely a cardboard mailer surrounded by a coversheet, while the manual is plain-looking. Then again, a trivial thing like that takes nothing away from this superb product.

Maverick V3 has quite a lot going for it. The program does what it says and is suited for beginners and advanced users alike. It's powerful, bug-free, reasonably priced with a fair upgrade policy, and backed by a company that cares.

AC does not condone the use of an archiving program for piracy, only for individual archiving purposes.—Editor.

•AC•

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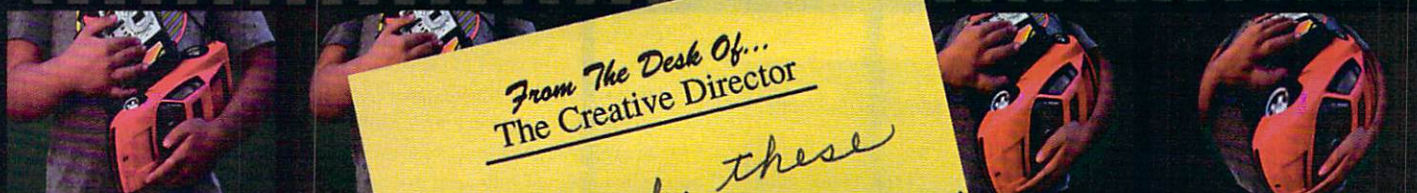
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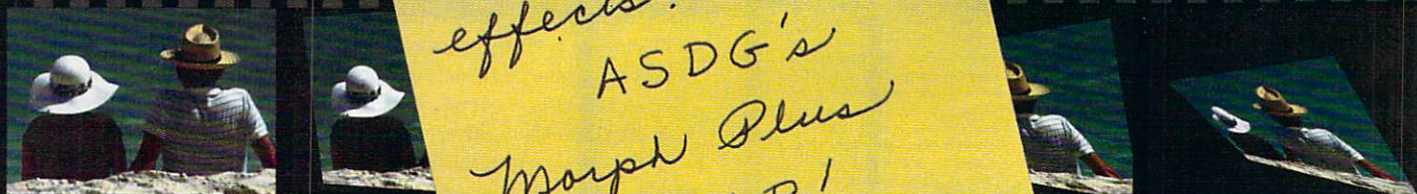
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ARexx in Desktop Publishing:

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Many thanks to all the people who responded to the April issue and my offer of the ADProScale Utility. It was so popular that I'm going to do it again. This time, if you do DTP on the Amiga (with any software package), own ARexx, and have TurboText (or are willing to get it), then you'll want to get a copy of what I'm calling the ARexx DTP Index Builder (ADIB). It will save you literally hundreds of hours of drudge work, including the considerable typing of the code, but your Indices and Table of Contents will be guaranteed to warm the heart of Marian the Librarian. I developed these programs to help me finish *The ARexx Cookbook* sometime before the next century, and I can testify from experience that programming *and* using these programs took much less time than doing it all manually.

The Problem

One of the most aggravating things about the DTP software for the Amiga is that there is no way that PageStream, or any other DTP package, will generate an index for you or a Table of Contents. WordPerfect has a crude index builder, but how will you then format

everything which is impossible to do with software manually. The "impossible core" information that must be done manually is simply to find the end of each page! And mark them with some unique string—I used "\$\$". Every index must come from the mind of the author, because if you made a system that indexed every word, you'd have a thick concordance! Since making selections for the index is part of authorship, I don't count the time a user takes selecting his or her words and strings to index, but I made this chore as automatic as possible, using that paragon of editors, TurboText (TTX), which has a full ARexx interface.

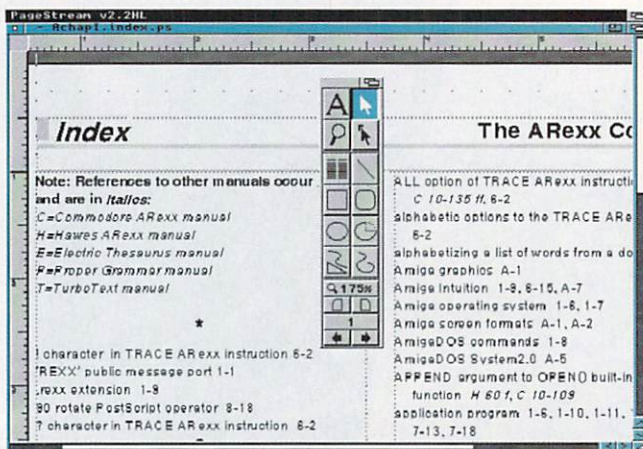
The Procedure

First, you must finish the document with all revisions completed, at least to the point that no text will shift page numbers on you. Print out a draft to help you locate the End of Page (EOP). Now, if your book is like mine, you probably have one file for each chapter and your pages run 1-1, 1-2 for Chapter One, Page 1, Chapter One, Page 2, etc. You therefore need to export ASCII text from PageStream by selecting all text and saving it as ASCII to files with the names C.1 for Chapter One, C.2 for Chapter Two, etc. If you have multiple, non-linked columns and so forth, you will need to export the complete chapter in sequential pieces or re-compose the pieces in TTX. The goal is to have an ASCII file where the text in the chapter is all there in sequence. Format doesn't matter at all. We are going to use these files only for indexing. They will never be imported into your document.

Step One: Make the Working Files

After we make C.1, C.2, ..., C.n and save them, we are ready to mark the ends of all pages. I made a simple key-stroke recorded macro in TTX to type in \$\$ at my cursor. Then, using my draft copy of *The ARexx Cookbook*, and the Find command in TTX, I marked the end of every page and also the very end of each Chapter file with \$\$\$. Even a book with 250 pages was easily done in just a few hours.

The first program, run from a Shell, is INDEX-1-Chapter.rexx. The naming of the programs reflects the sequence in which you use them, what they do, and whether they are an ARexx program run from a Shell ".rexx" or a TTX Macro ".ttx". This one extracts from each Chapter file many smaller files, one for each page. These are named P1.10, P3.5, etc. for Chapter One, Page 10, Chapter Three, Page 5, etc. The program generates them sequentially, however. The program lets you start with any existing Chapter and it steps through all the Chapter files until it's done or you quit. This program also allows you to set the default path for your INDEX document files and it saves it in ENVARC: for you. Every time this first program is run, you have the opportunity to edit your default path or use the stored one. You *don't* need to edit the code! Also, the data for each chapter—its number and how many pages it has—is stored in a file "defaultpath/ChPg" for you to use later if you like. The program lets you edit this file as well. I had an Appendix numbered A-1, A-2, etc. and I changed the last entry from "Chapter Nine" in sequence with 36 pages, "9.36" to "A.36," to make the page numbers read properly when attached to the index entries. The ChPg file may be used, or you may enter these data manually for testing purposes or partial runs.



the pages and pictures? *AmigaTex*, with ARexx support, will do a great job setting your type, but it isn't, and doesn't claim to be, a page layout program. Since the user must imbed format commands in the text, *AmigaTex* isn't for the faint of heart.

How to Find the End of Page?

Think of PageStream as a row of tall glasses that you must fill sequentially from a very large pitcher of water. That's the way the "pages" are in PageStream: They are just forms which you fill with text. There are no end-of-page markers. I looked at a hex file of one of my documents. The text is simply poured into the forms, and it is the forms that are numbered and *not* your text. Everyone said to give it up. Not only does PageStream not have ARexx, but even if it did, you could not implement an automatic ARexx index builder because of the above problem. Indeed, *Professional Page* does have ARexx, but you can't make an index automatically with it. None of my "Job's Comforters" thought of doing the obvious: make a *semi*-automatic system and do

A Super Index Builder!

Using TurboText and ARexx Together

by Merrill Callaway

Step Two: Select the Index Strings

Now we load the Chapter files, "C.n" where n=Chapter number, into TurboText in order to grab our Index or Table of Contents strings. You need not worry about redundancy or alphabetic order, because these are taken care of automatically! You also don't need to worry about page numbers or even which chapter you're in—just that you eventually cover all chapters. The first program was an ARexx program run from the Shell, but this one is a TTX Macro. Note that all the listings have the relevant facts in comments so you can see what's what.

The TTX Macro INDEX-2-Words.ttx (note the typography, ttx = TurboText) should be connected to your Alt-I key in the TurboText TTX_Startup.dfn file so that you can just hit Alt-I to grab a word. When you hit Alt-I, the macro will grab any word under the cursor and put it into a temporary file (RAM:out). If we need an entire string, such as for a ToC, then we select it first and then hit Alt-I. The text is not affected, as the macro only copies the word or block.

Step Three: Combine the Output With the "Master Index List"

Next, at the end of the session, we hit another macro key, Alt-C for "Combine" to append the words and strings in the temporary file RAM:out to our storage file for the whole index, the "Master Index List" (MIL), named "INDEX.ascii". This Macro, INDEX-3-Combine.ttx lets you choose where you want the (MIL) "INDEX.ascii" to be stored and what it is to be called. These "bells and whistles" I added for you, as my originals were "quick and dirty." The MIL is the heart of the series. It gets updated at every turn, either to have strings added to it, or to be sorted alphabetically, or finally to have the page numbers attached at the very end. Even the page numbers are attached sequentially with the MIL being updated many times over. This is the only way to get the page numbers the right way around in the final listing. In the meantime, INDEX.ascii may be edited by hand, or you may remove duplicates with the next program, also a TTX Macro.

Step Four: Remove Duplicates and Sort

This macro, launched by Alt-L, INDEX-4-UniLine.ttx is for removing duplicate lines and for sorting a document's lines in alphabetical order. This improved version lets you choose whether to ignore case or not when removing duplicates, and whether to ignore case or not when doing sorts. There are two requesters that pop up to ask you, so there are four possibilities. The way I did The ARexx Cookbook was to ignore case in both instances, but if you need your document (perhaps about case-sensitive programming commands) to account for case, it's all there. We can run this program on RAM:out or INDEX.ascii at any time. We run it one last time before attaching page number information at the last step.

Step Five: Re-format Page Files for String Searches

This is a BATCH ARexx program run from a Shell. INDEX-5-Documentize.rexx reformats all those PAGE files P1.1 through P#.# in the following way: It turns every paragraph into *one long line*! Why? The program that matches up the strings and words we have selected will not match multiple word strings if they wrap from one line to the next! We need to unravel them into one line per paragraph so that these ToC

and other longer strings won't get ignored. The program calls a modification of one of the macros that comes with TTX. I changed the macro to allow it to be called as a function from within another ARexx program.

Step Six: Finish and Attach Page Number Information

The final program INDEX-6-Finish.rexx is also an ARexx program run from a shell. *Be sure* to have INDEX.ascii in the final form you want before doing this step. It's a very good idea to make a backup of INDEX.ascii before using. This program is where you save all the time. Go have lunch while it's running, because it compares *every* string in your MIL (INDEX.ascii) with *every page* in the document, performing a FIND operation for each. It will do it *much* faster than you could have, and it won't miss anything. I needed a multiple index for *The ARexx Cookbook* covering the Hawes documentation *and* the Commodore documentation *and* the manuals for all the software examples (e.g., for TurboText) used in the book. The index has over 600 items. You may really find anything you need there; I'd never have had the patience to do all that by hand!

The Other Listings: Functions and Utilities

The rest of the listings have comments as to what they are and do. They are either external functions, or an auxiliary program IDXuniword.ttx used to extract a list of *every* word from a document. I found this useful for some of my program listings.

Listing 0

```
/*
** NAME:      INDEX-0-Help.rexx
** SEQUENCE:  #0, INDEX HELP
** FUNCTION:  ARexx Program (from Shell (CLI)).
**            AmigaGuide generated help for
**            INDEX building.
**
** INPUT:     Shell
**
** OUTPUT:    AmigaGuide Window.
**
** NOTES:     Opens AmigaGuide Help window.
** (C) 1992 by Merrill Callaway
*/

OPTIONS RESULTS
ADDRESS COMMAND "AmigaGuide S:INDEXhelp.guide"
EXIT 0
```

Listing 1

```
/*
** NAME:      INDEX-1-Chapter.rexx
** SEQUENCE:  #1, INDEX building.
** FUNCTION:  ARexx Program (from Shell (CLI)).
**            Puts Chapters into files by page.
**            NEEDS MANUAL PREP! (SEE BELOW).
**
** INPUT:     Shell, defaultpath/C.#
**            User can edit defaults.
**
** OUTPUT:    Shell, defaultpath/P#.#
**            User can edit defaults.
**
** NOTES:     The FIRST STEP is to lay out the
**            document in PageStream or other DTP pgm in
```



```

** FINISHED format. EXPORT the text as ASCII.
** For each chapter, name the ASCII files:
** C.1 for Chapter One, C.2 for Chapter Two, etc.
** If you are page numbering as 1-1 for Chapter
** One, page 1 etc. If the entire book has
** sequential pagination, then just name the
** entire ASCII file as C.1
**
** Open the file C.1 in TurboText.
** Next, MANUALLY insert these two $$ at the end
** of each "page" in the ASCII file, and one at
** the very end of file. Use a draft
** printout of the DTP document to assist you to
** find the end of each page. Also use the Find
** command to help you. It is handy to do a
** recorded keystroke Macro to type the $$ at
** the cursor.
**
** Open a shell to run this pgm.
** This program operates to find the $$ and create
** a new file for each page in the document, by chapter.
** These files are put in the same path as the C.n files.
** These files are used later to BUILD AN INDEX.
** Enter the chapter number at the prompt. The program
** will find all the pages (provided you put $$ at the
** end of the file!). Run this pgm for EACH
** chapter in your book.
**
** NOTE: TurboText must be running. This pgm
** makes NO ATTEMPT TO CHECK that TTX is running, since
** I always run it in the background anyway
** (TTX in the WStartup drawer).
** (c) 1992 by Merrill Callaway
*/

TRACE OFF
OPTIONS RESULTS
inquire=1
CALL INDEXgetdefaultpath.rexx inquire
defaultpath=RESULT

SAY 'Enter Starting Chapter Number 1 or 2, or ... Etc. Q=quit'
flag=0

Start:
SIGNAL ON ERROR
IF flag THEN DO
  test=chap+1
  IF ~OPEN('exists',pathname'C.'test,'R') THEN DO
    SAY 'Last chapter was C.'||test-1' Exiting...'
    EXIT 0
  END
  CALL CLOSE('exists')
  SAY 'Do Chapter 'chap+1'? [Rtn]=YES Q=quit.'
  END
PULL chap
IF chapt='Q' THEN EXIT 0
IF chapt='' THEN chapt=chap+1
chap=chapt
IF ~DATATYPE(chap,W) THEN DO
  SAY 'You MUST enter integers for chap!'
  SAY 'Try again...'
  SIGNAL START
  END
END

ADDRESS 'TURBOTEXT'

IF flag=0 THEN DO
  SAY 'Enter the path for your Chapter files.'
  SAY '[Rtn]='defaultpath
  PULL pathname

  IF pathname='' THEN pathname=defaultpath
  END

  'OPENDOC NAME' pathname'C.'chap
  portname=RESULT
  ADDRESS VALUE portname

DO i=1
  file.i='p'chap'.i
  MoveSOF
  MarkBLK
  'FIND '$$'
  MoveNextWord
  'MoveLeft 1'
  CutBLK
  'SaveClip Name' pathname||file.i
  END

ERROR:
CutBLK
'SaveClip Name' pathname||file.i
data=chap'.i
IF OPEN('cp',pathname||'ChPg','A') THEN DO

```

```

CALL WRITELN('cp','')
CALL WRITECH('cp',data)
END
ELSE IF OPEN('cp',pathname||'ChPg','W') THEN DO
  CALL WRITELN('cp',data)
  END

stop:
CALL CLOSE('cp')

'CloseDOC Quiet'
flag=1
SIGNAL start

EXIT 0

```

Listing 2

```

/*
** NAME: INDEX-2-Words.ttx
** SEQUENCE: #2 INDEX building.
** FUNCTION: TurboText Macro.
** Key assignment: Alt-I
** Use TTX with documents
** C.1, C.2, etc. to
** Build INDEX list. See
** INDEX-1-Chapter.rexx notes.
**
** INPUT: Current Open TTX Document.
** User selected strings or
** word under cursor.
**
** OUTPUT: RAM:out
**
** NOTES: SECOND STEP to MAKING an INDEX
** or Table Of Contents. Makes a list of
** SELECTED blocks from a TurboText document.
** If a block is selected, then that block is
** added to the list. If NO Block is selected,
** then the word under the cursor is added
** to the list. In the
** TurboText:support/TTX_Startup.dfn file,
** this Macro is attached to the Alt-I key:
** ALT-I execarexxmacro rexx:INDEX-2-Words.ttx
**
** When in TurboText, pressing Alt-I will
** snap up the word or selected block. The
** name of the File containing the list of
** words and the blocks is RAM:out. If this
** file exists this program adds to the list,
** and if it doesn't, it creates it. NOTE: if
** a word like "doesn't" is needed in the
** list, SELECT IT AS A BLOCK, because, the
** TurboText function GETWORD only snaps the
** word up to the next punctuation mark.
** (c) 1992 by Merrill Callaway
*/

OPTIONS RESULTS
GETPORT
oldaddress=RESULT

GETDOCUMENTS
list=RESULT
offset=FIND(list,"out'")

IF offset>0 THEN DO
  offset=offset+1
  Indexaddress=WORD(list,offset)
  END

IF offset=0 THEN DO
  'OPENDOC NAME RAM:out'
  Indexaddress=RESULT
  END

GETBLKINFO
blk=RESULT
PARSE VAR blk first rest

IF first = 'ON' THEN COPYBLK

IF first = 'OFF' THEN DO
  GETWORD
  word=RESULT
  END

/* put in the copied block */
ADDRESS VALUE Indexaddress
IF first = 'OFF' THEN SIGNAL finish

```



```

/* highlighted block */
MOVEEOF
INSERTLINE
PASTECLIP
SIGNAL ENDING

```

```

/* single word under cursor */
finish:
MOVEEOF
INSERTLINE
INSERT TEXT word

```

```

ENDING:
'SAVEFILE NOICON'
ADDRESS VALUE oldaddress
WINDOW2FRONT

```

```
EXIT 0
```

Listing 3

```

/*
** NAME: INDEX-3-Combine.ttx
** SEQUENCE: #3 INDEX building.
** FUNCTION: TurboText Macro.
** Key assignment: Alt-C
** Appends RAM:out to INDEX.ascii or other
** file of your choice.
** INPUT: RAM:out and defaultpath/INDEX.ascii
** or User Specified INDEX file.
** OUTPUT: defaultpath/INDEX.ascii
** or User Specified INDEX file.
**
** NOTES: Use after finishing with a session using
** INDEX-2-Words.ttx to add to your index entry list.
** Appends your new entries to an existing INDEX file
** which defaults here to INDEX.ascii. In
** TurboText:support/TTX_Startup.dfn file,
** This Macro is attached to the Alt-C key:
** ALT-C execarexxmacro rexx:INDEX-3-Combine.ttx
**
** This pgm starts out asking you if you want to
** append your new entries to your running list
** called here INDEX.ascii (you can change it and
** the default PATH in the code below). If you try
** to append to a non-existent file you will get
** a requester. You may exit (with a screen flash)
** or start over with an existing file. If you don't
** want a warning flash change EXIT 5 to EXIT 0.
** (c) 1992 by Merrill Callaway
*/

```

```

TRACE OFF
OPTIONS RESULTS

```

```

CALL INDEXgetdefaultpath.rexx
defaultpath=RESULT

```

```
START:
```

```

'REQUESTFILE PROMPT',
''Append list to file..'',
'PATTERN #?.ascii PATH 'defaultpath||'INDEX.ascii'
ans=RESULT

```

```

/*
** If index file exists, append the RAM:out
** file to it. This was the file output by
** the TTX Macro INDEX-2-Words.ttx
*/

```

```

IF OPEN('test',ans,'Append') THEN DO
ADDRESS COMMAND,
'JOIN 'ans' RAM:out AS RAM:comb'
ADDRESS COMMAND 'COPY RAM:comb TO 'ans
ADDRESS COMMAND 'DELETE RAM:comb'
ADDRESS COMMAND 'DELETE RAM:out'
END
ELSE 'REQUESTBOOL',
'' File not there!'',
'' Do we EXIT?''
res=RESULT
IF res='YES' THEN EXIT 5
IF res='NO' THEN SIGNAL START

```

```
CALL CLOSE('test')
```

```
EXIT 0
```

Listing 4

```

/*
** NAME: INDEX-4-UniLine.ttx
** SEQUENCE(A): #4A INDEX building.
** SEQUENCE(B): #4B INDEX finishing.
** FUNCTION: TurboText Macro.
** Key assignment: Alt-L
** Makes a sorted, unique
** list in a separate TTX document.
**
** INPUT: Current Open TTX Document.
** OUTPUT: Default: defaultpath/INDEX.ascii
** or User Specified via requester.
** User can edit defaultpath by
** editing ENVARC:indexdefault.path file
**
** NOTES(A): Makes a SORTED list of UNIQUE LINES
** from any TurboText document. Use as the FOURTH
** step for preparing an INDEX or Table Of Contents.
**

```

```

** NOTES(B): Use as the finishing pgm after ALL the
** to-be-indexed strings have been selected and
** saved to the INDEX.ascii file. This will create
** a unique, sorted list, ready to attach the page
** numbers with the next INDEX building program,
** INDEX-6-PageNumbers.rexx
**

```

```

** A new temporary document called RAM:wordlist
** captures this output for further processing.
** Unless you explicitly SAVE RAM:wordlist, it
** only exists as long as its TTX window is open.
**

```

```

** Two requesters ask about CASE SENSITIVITY of the
** UNIQUE and SORTED word lists. For the UNIQUE list,
** If you CANCEL then case will NOT matter and the
** first occurrence of a word ONLY will be in the list.
**

```

```

** The second requester asks you if you want
** CASE sensitivity in the SORTED list as well.
** If you answer OK then the capitalized words
** will come first in the list. There are four
** combinations of OK and Cancel regarding CASE
** but the most likely indices will use:
** 1)OK 2)OK or 1)OK 2)Cancel or 1)Cancel 2)Cancel
**

```

```

** A third requester opens to ask you if you want to save
** permanently to the default INDEX file, INDEX.ascii.
** Change the code if you want a different
** default path/filename. (see commented sections
** below for which strings to change).
**

```

```

** If you cancel the requester, you may still manually
** save RAM:wordlist if you want to work with this
** as a temporary file for some reason.
** (c) 1992 by Merrill Callaway
*/

```

```

TRACE OFF
OPTIONS RESULTS

```

```

CALL INDEXgetdefaultpath.rexx
defaultpath=RESULT

```

```

/* use to find end of file of doc */
SIGNAL ON ERROR

```

```

/* Find out if we want to make UNIQUE list CASE sensitive */
'REQUESTBOOL 'UNIQUE WORD List: Case Sensitive?'',
''Case Sensitive. NOT Case Sensitive.''
casesensitive=RESULT

```

```

/* Find out if we want to make SORTED list CASE sensitive */
'REQUESTBOOL 'SORTED WORD List: Case Sensitive?'',
''Case Sensitive. NOT Case Sensitive.''
sortcasesensitive=RESULT

```

```

/* Remove all blank lines at SOF */
MOVESOF
DO FOREVER
GETLINE
line=RESULT
IF LENGTH(line)<2 THEN DO
DELETELIN
MOVEDOWN
ITERATE
END
line=LEFT(line,LENGTH(line)-1)
IF DATATYPE(line,ALPHANUMERIC) THEN LEAVE
END

```

```

/* Remove all blank lines at EOF */
MOVEEOF

```



```

DO FOREVER
GETLINE
line=RESULT
IF LENGTH(line)<2 THEN DO
  DELETLINE
  MOVEUP
  ITERATE
END
line=LEFT(line,LENGTH(line)-1)
IF DATATYPE(line,ALPHANUMERIC) THEN LEAVE
DELETLINE
MOVEUP
END

MOVEEOL
GETCHAR
IF ~DATATYPE(RESULT,A) THEN DELETE

/* End of EOF & SOF blank line removal. */

MOVESOF
ICONIFYWINDOW ON

/* extract unique word list */
LISTED.=0
n=1
DO FOREVER
  GETLINE
  line=RESULT
  IF casesensitive='YES' THEN Uline=line
  ELSE Uline=UPPER(line)
  IF LISTED.Uline THEN DO
    MOVEDOWN /* we get error if at end of doc */
    ITERATE
  END
  LISTED.Uline=1
  list.n=line
  n=n+1
  MOVEDOWN /* we get error if at end of doc */
END

/* error generated when we hit the end of doc */
ERROR:

/* output to a new document window */
j=n-1
'OPENDOC NAME RAM:wordlist'
newdoc=RESULT
ADDRESS VALUE newdoc
SetStatusBar TEMPORARY "Sorting...Please wait..."
SETDISPLAYLOCK ON
MOVESOF
DO i=1 TO j
  'INSERT TEXT' list.i
  INSERTLINE
END

/*
** Sort the unique lines...
**
** We need to sort the line entries without
** regard to case. The c:sort Amigados pgm
** does a good job. If the sort is to be CASE
** sensitive, then a CASE/S switch is inserted into
** the sort routine, and Upper case words occur
** first in the list.
**
*/

IF sortcasesensitive='YES' THEN case='CASE'
ELSE case=''

GetCursorPos
  PARSE VAR RESULT cursorLine cursorColumn .
GetFilePath
  path = RESULT
SaveFileAs "T:File" || ".NOTsorted"

/*
** The Sort Template:
** FROM/A,TO/A,COLSTART/K,CASE/S,NUMERIC/S
**
*/

ADDRESS COMMAND,
"C:Sort T:File" || ".NOTsorted T:File" ||,
".YESsorted "case
OpenFile QUIET "T:File" || ".YESsorted"
SetFilePath path

ADDRESS COMMAND,
'C:Delete >Nil: T:File' || ".#?sorted"

CenterView OFF
SetDisplayLock OFF
Move cursorLine cursorColumn

```

```

MOVESOF
'REQUESTFILE PROMPT',
'Save to INDEX.ascii?',
'PATTERN #?.ascii PATH 'defaultpath'INDEX.ascii'
ans=RESULT
IF ans='RESULT' THEN 'SAVEFILES NAME' ans

EXIT 0

```

Listing 5

```

/*
** NAME: INDEX-5-Documentize.rexx
** SEQUENCE: #5 INDEX building.
** FUNCTION: ARExx program. (Run from Shell).
** Looks in the Chap.page directory
** and reformats all the P#. # page
** files into ONE LONG LINE for each
** paragraph.
** INPUT: Shell, defaultpath/P#. #
** User may edit default path file in
** ENVARC:indexdefault.path
** OUTPUT: Shell, defaultpath/P#. #
** User may edit default path file in
** ENVARC:indexdefault.path
**
** NOTES: This assists in the searching operations
** later. If an index string "wraps" around from one
** line to the next, then the TTX search function
** won't find it reliably. Transforming all the page
** files into "Documentized" format eliminates the
** problem. This operation takes some time, so
** this program allows one to "batch" process ALL
** the Page files at once, so the searching goes
** faster later. In the INDEX-6-Finish.rexx pgm,
** you may Documentize or not. IF you use this pgm
** first, then answer 'Y' to the question, "Have
** the files been Documentized?" Otherwise answer 'N'.
** (c) 1992 by Merrill Callaway
*/

```

OPTIONS RESULTS

```

CALL INDEXgetdefaultpath.rexx
defaultpath=RESULT

SAY 'Enter Path/ to chapter/page files...'
SAY 'Default [Rtn]='defaultpath
PULL path
IF path='' THEN path=defaultpath
IF RIGHT(path,1)~='/' THEN path=path||'/'

i=1
IF OPEN('cp',path||'ChPG','R') THEN
  DO WHILE ~EOF('cp')
    line.i=READLN('cp')
    i=i+1
  END

ADDRESS 'TURBOTEXT'
OPENDOC
ed=RESULT
ADDRESS VALUE ed

DO j=1 TO i-2 /* Don't want EOF marker! */
  PARSE VAR line.j chap'.pages'
  DO k=1 TO pages
    'OPENFILE QUIET NAME' path||'p'chap'.k'
    GETPORT
    adr=RESULT
    CALL DOCUMENTIZE.TTX adr
    SAVEFILE NOBACKUP NOICON
  END
END

```

```

CLOSEDOC QUIET
EXIT 0

```

Listing 6

```

/*
** NAME: INDEX-6-Finish.rexx
** SEQUENCE: #6 INDEX finishing.
** FUNCTION: ARExx program. (Run from Shell).
** Makes the finished ASCII index file.
** Attaches page numbers to item strings
** in index file INDEX.ascii after all
** entries from all chapters have been
** input using the other INDEX-#-#? programs/macros.
** INPUT: Shell, Default file: defaultpath/INDEX.ascii

```



```

**      or User specified.
**      User may edit default path file in
**      ENVARC:indexdefault.path
** OUTPUT: Shell, Default file: defaultpath/INDEX.ascii
**      or User specified.
**      User may edit default path file in
**      ENVARC:indexdefault.path
**
** NOTES:  You have used the preceding programs in the
** series to build up a file called INDEX.ascii which is a
** SORTED list of all STRINGS you want to INDEX. This
** program takes that list of strings and searches for EACH
** STRING in each PAGE file (P.#.#) in turn, and finding a match,
** it attaches the PAGE NUMBER(s) to each list entry in sequence.
**
** There are loops to help edit the chapter.page data, in case
** you have appendices or chapters with letters instead of
** numbers, e.g. Appendix A is A-1, A-2 etc. instead of 9-1, 9-2.
**
** There is a default string you may edit in the code as well.
** There is a default path name you may edit to save typing.
** (c) 1992 by Merrill Callaway
*/

```

```

Start:
OPTIONS RESULTS

```

```

CALL INDEXgetdefaultpath.rexx
defaultpath=RESULT

```

```

SAY 'Enter path/ of Chapter.Page files.'
SAY 'Default path: 'defaultpath' Press [Rtn] to select.'
PULL path
IF path='' THEN path=defaultpath
IF RIGHT(path,1)~='/' THEN path=path||'/'

```

```

fpath=path
path=path||'ChPg'

```

```

IF -OPEN('exists',path,'R') THEN DO
  SAY 'That path does not contain the chapter.page data!'
  SIGNAL Start
END

```

```

inputline=''
k=1
DO WHILE -EOF('exists')
  line.k=READLN('exists')
  inputline=inputline||line.k '
  k=k+1
END

```

```

k=k-2
CALL CLOSE('exists')
ask:
SAY 'This is the data. Use it? Y/N E=Edit'
SAY inputline
PULL answer

```

```

IF LEFT(answer,1)='E' THEN DO
  ADDRESS TURBOTEXT 'OPENDOC NAME' path
  port=RESULT
  SAY 'Press [Rtn] to continue.'
  PULL anykey

```

```

CALL OPEN('pgdata',path,'R')
inputline=''
k=1
DO WHILE -EOF('pgdata')
  line.k=READLN('pgdata')
  inputline=inputline||line.k '
  k=k+1
END

```

```

k=k-2
CALL CLOSE('pgdata')
SIGNAL ask
END

```

```

IF answer~='Y' THEN DO
  SAY 'Enter all chapters and pages chap.pages chap.pages ...'
  SAY '[Rtn]=Default list:'
  /* Edit your own default list here. */
  SAY '1.13 2.29 3.20 4.27 5.30 6.16 7.32 8.20 A.35'
  PARSE PULL inputline
  IF inputline='' THEN DO
    inputline='1.13 2.29 3.20 4.27 5.30 6.16 7.32 8.20 A.35'
  END
END

```

```

SAY 'FINAL input line: Press [Rtn] to continue. Q=quit'
SAY inputline
historyline=inputline
PULL go
IF go='Q' THEN EXIT 5

```

```

formatflag='N'
SAY 'Are files already documented? Y/N'
PARSE UPPER PULL formatflag
IF formatflag~='Y' THEN formatflag='N'

SAY 'Enter: S=String or W=Whole word search.'
PARSE UPPER PULL searchflag
IF searchflag ~='S' & searchflag ~='W' THEN DO
  SAY 'Default: String Search enabled.'
  searchflag='S'
END

```

```

SAY 'Enter: C=Case sensitive [Rtn]=Ignore Case.'
PARSE UPPER PULL caseflag
IF caseflag~='C' THEN caseflag='I'
IF caseflag ~='C' & caseflag ~='I' THEN DO
  SAY 'Default: Ignore Case enabled.'
  caseflag='I'
END

```

```

i=1
DO WHILE inputline ~=''
  PARSE VAR inputline c.i'.p.i' inputline
  i=i+1
END

```

```

SAY 'NOTE: Input data file and OUTPUT file must be the same!'
SAY 'Enter ascii index data path/filename.'
SAY 'Press [Rtn] to use 'defaultpath' || 'INDEX.ascii default file.'
PARSE PULL output
IF output~='' THEN output=fpath||'INDEX.ascii'
IF POS(':',output)=0 THEN output=fpath||output
DO j=1 TO i-1
  CALL INDEXbuild.rexx c.j'.p.j' searchflag caseflag formatflag,
    output fpath
  ADDRESS COMMAND 'COPY RAM:INDEX TO 'output
END

```

```

CALL DELETE('RAM:INDEX')

```

```

IF formatflag='N' THEN docflag=' ' ELSE docflag=' NOT '
IF caseflag='C' THEN casesensitive=' CASE sensitive'
ELSE casesensitive=' NOT case sensitive'
IF searchflag='W' THEN search='WHOLE WORDS';ELSE search='STRINGS'
SAY
SAY 'SESSION HISTORY:'
SAY 'Input/Output file: 'output
SAY 'The search was' || casesensitive || ', and 'search 'were matched.'
SAY 'The following files were processed (format: Chapter.pages): '
SAY historyline
SAY 'Documentizing was' || docflag || 'performed.'
SAY
EXIT 0

```

Listing 7

```

/* indexbuild.rexx ATTACH PAGE NUMBERS to MATCHED STRINGS */
/* external function called by INDEX-6-Finish.rexx */

```

```

OPTIONS RESULTS
PARSE ARG chap '.' pages searchflag caseflag formatflag output fpath

```

```

IF OPEN('concord',output,'R') THEN
DO

```

```

ADDRESS 'TURBOTEXT'
OPENDOC
ed=RESULT
ADDRESS VALUE ed

```

```

IF caseflag='C' THEN SETPREFS FINDIGNORECASE OFF
ELSE SETPREFS FINDIGNORECASE ON

```

```

IF searchflag='W' THEN SETPREFS FINDWHOLEWORDS ON
ELSE SETPREFS FINDWHOLEWORDS OFF

```

```

i=0
DO WHILE -EOF('concord')
  line.i=READLN('concord')
  PARSE VAR line.i entry.i '-'
  IF DATATYPE(RIGHT(entry.i,1))='NUM' | RIGHT(entry.i,2)='A' THEN,
    entry.i=LEFT(entry.i,LENGTH(entry.i)-2)
  i=i+1
END
limit=i-1
DO k=1 TO pages
  'OPENFILE QUIET NAME' fpath'p'chap'.'k
  IF formatflag='N' THEN DO
    CALL DOCUMENTIZE.TTX ed
    SAVEFILE NOBACKUP NOICON

```

(continued on page 75)



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True BASIC, v2.0

by Paul Castonguay

T rue BASIC, published by the original inventors of BASIC, is a powerful programming environment with which you can design applications that are either platform independent, that is, easily transported between Amiga, IBM, Mac, and even UNIX, or that are Amiga specific, taking advantage of and even directly accessing the Amiga's custom features. Scheduled for official release in September, version 2.0 of True BASIC for the Amiga executes on all machines, including the 3000 using AmigaDOS 2.04.

In an attempt to achieve the deepest market penetration possible, TBI has decided to publish this next Amiga release in a special low-cost form, which they call their "Student Edition." It will sell for the unbelievably low price of \$15. They want to give as many people as possible a taste of the philosophy and advantages of BASIC.

The "Student Edition" is equivalent to TBI's "Regular Edition" in every respect except that it does not contain the utility for

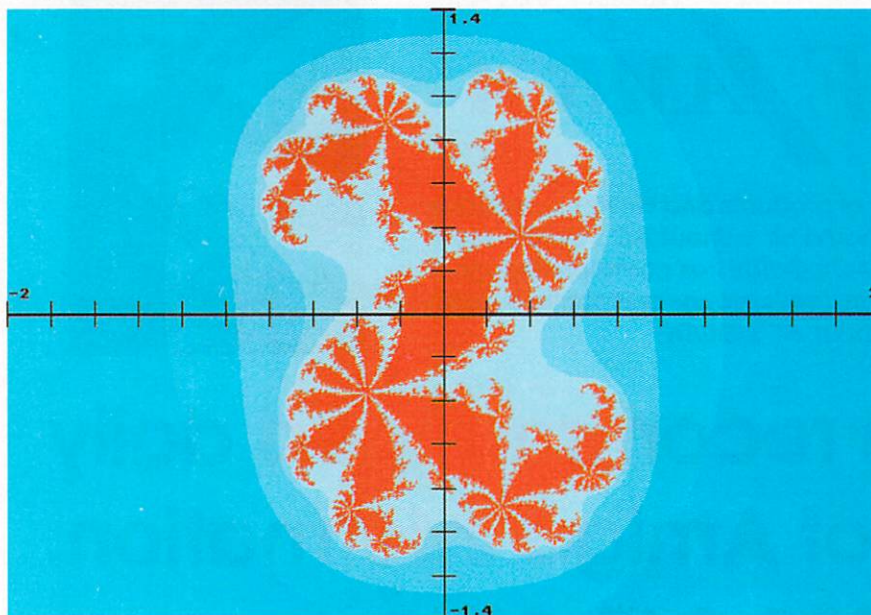
producing self-standing programs, that is, programs that can be run without the benefit of the language system, and it does not have some of the advanced program-

ming tools. However, it does allow you to compile your programs and save them in compiled form, thus allowing you to protect your rights to their design before

True BASIC

A powerful structured language system
by the original authors of BASIC

John G. Kemeny
Thomas E. Kurtz



Above, True BASIC is used to create a colorful fractal

distributing them. But they are not self-standing, which means that for someone else to execute them, he must also own the language system. Compiled programs are executed from True BASIC's editor, but they cannot be viewed in any way. In addition, this latest release has a COMMAND level script facility that can be used to make the language system load and execute a previously compiled application automatically when it is started up.

Why a New Release?

One reason for a new version is to take care of a number of bugs in the older 1.0 version. The most important of these is its incompatibility with the newer 32-bit machines. Many software publishers were caught by this. Even AmigaBASIC does not run reliably on a 32-bit machine, although patches are available to make it operative.

In addition to bug fixes, TBI has upgraded this new Amiga version to include recent improvements on other platforms.

It's been stated that a general goal of BASIC was to relieve the programmer of the burden of having to understand all the complex inner workings of a computer before being able to program it, but what does that mean in terms of the actual language? A good example that can help bring this out, and that most beginners can relate to, is the process of storing numeric values in memory using variable names, that is, the assigning of numeric data. Most dialects (AmigaBASIC included) possess a variety of numeric data types, like short integer, long integer, single precision floating point, and double precision floating point, that you can use to ensure your data is stored most efficiently. Some dialects have even more. They are specified by using special characters at the end of each variable name, like this:

and the language system itself decides how to most efficiently store it, which in the above case would be as a short integer. It happens automatically.

Advanced users may think that this is a lot of fuss over nothing, but don't underestimate its importance. It happens all too often, even with professional programmers, that numeric variables are declared incorrectly and in the process obscure program bugs are created. For example, a short integer variable may overflow on itself, wrapping around to negative values because it's stored internally in 2's complement form—do you know what that means?—and produces unexpected results. Such bugs are most likely to occur when modifications are made long after the original constraints around which a variable was declared are forgotten. The result is hours of frustration chasing obscure bugs that one would usually expect in C or Pascal, but not in BASIC.

sharply contrasts with all other dialects, many of which proudly advertise their different numeric data types as if they were features. However, such characteristics are really language deficiencies, and are against the very principles around which BASIC was invented in the first place. They require more work on your part. They make the language harder to learn and use competitively.

This is only one example where various implementers of BASIC, not its inventors, have tried to change its syntax to more directly control the hardware, usually for the purpose of gaining a slight speed advantage. It is certainly not the most important one. But it is one that is easily understood by beginning programmers. I hope that it will give you a feel for the philosophical differences between True BASIC and other dialects.

Another important principle around which BASIC was invented is platform independence: the idea that programs

It happens all too often, even with professional programmers, that numeric variables are declared incorrectly and in the process obscure program bugs are created.

```
LET X! = 3.1416 <== Single precision
floating point
LET X = 3.141592654 <== Double precision
floating point
LET X% = 42 <== Short integer
LET X& = 42000000 <== Long integer
```

In most such dialects it is your responsibility to decide which ones to use in different programming situations. The trouble with that is: for you to assign your data most efficiently, without getting yourself in trouble, you must fully understand how it is stored within the circuits of your particular machine. That is, you must understand the concepts in computer engineering around which your computer was designed.

In True BASIC you specify only one numeric data type:

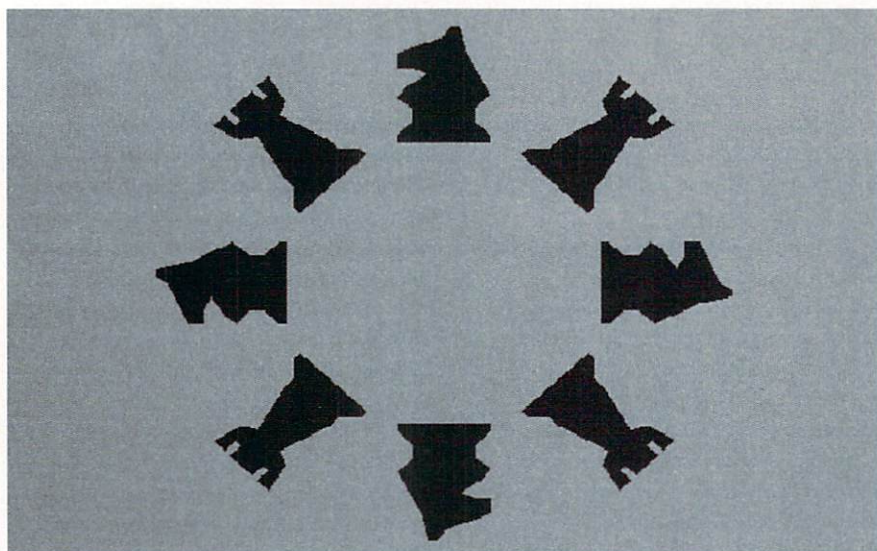
```
LET X = 42
```

AmigaBASIC does provide this feature to some extent. If you assign an out-of-range value to a variable in the editor, you will see it automatically cast to the next higher type. That's a nice feature, but AmigaBASIC does not protect you from that same error occurring during program execution.

The fact is that the internal details as to how a particular numeric value is most efficiently stored within your computer have nothing to do with programming. That is the reason why the creators of BASIC made numeric type-casting an automatic feature of their language. True BASIC, a more modern version of that original language, carries on that same tradition. It's one of the things that is meant by, "... protecting you, the programmer, from the architectural complexities of the computer." In this respect True BASIC

written on one model computer, say a Sun Microsystems UNIX workstation, can be compiled and executed essentially unmodified on another, say an Amiga. Only then can you, the user, update your system without having to redesign all your programs. Only then can Amiga owners use their computers to design programs for use on other professional platforms. Only then will your programming skills remain valuable in the future.

Many Amiga users have a misunderstanding of this aspect of True BASIC, thinking that it will limit their programs to operations that are possible only on the most ill-equipped IBM clone. Nothing could be further from the truth. The core language of True BASIC includes many advanced, high level features, especially in the area of graphics, that are found in no other language. And, the Amiga version

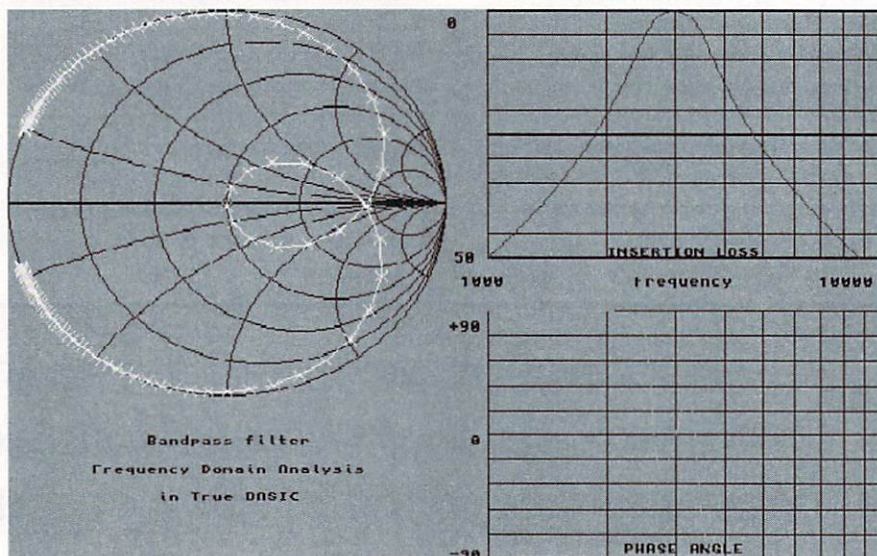


Left: The result of the example code which renders two different chess pieces in a circular pattern. Below: Three scientific plots, one polar and two logarithmic. They are produced by solving and plotting their respective equations directly within whatever coordinate system best describes the phenomena they represent.

performs these operations more competitively—read “faster”—because TBI has designed it to take advantage of the machine’s custom hardware.

I should also point out that system independence does not mean that you cannot access the Amiga’s underlying operating system if you want to. Indeed, in True BASIC it is particularly easy to do. The reason this is possible is that True BASIC consists of two parts: first, the core language, the part that is completely transportable between all machines, and second, a library of support files that extends the language to include custom features on your particular model. In this new Amiga version, the full range of Amiga operating system routines is accessible. In addition, the package contains other high level language extensions, like the FontLib library, to relieve you from having to deal with the Amiga’s complex operating system at the level of the ROM Kernel Manual. You can even execute AmigaDOS commands from within your True BASIC programs. Finally, TBI publishes an advanced developer’s toolkit, which provides even further high level support, like the animation and menu libraries.

True BASIC programs that are written within the core of the language can be ported, essentially unmodified, to IBM, Mac, and several models of UNIX workstations. The May/June issue of *BASICPRO* Magazine presented the animated CAD capabilities of True BASIC on the Silicon-Graphics UNIX workstation. The example code from that article is available from TBI at low cost and can easily be executed on an IBM, Mac, or Amiga.



True BASIC programs that are written to take advantage of platform-specific libraries are of course not directly executable on other systems. However, because of True BASIC’s structured features—more about that soon—you can encapsulate your project’s system-dependent parts, with the result that the majority of it remains transportable without modification.

This is where True BASIC really excels. Most other dialects, AmigaBASIC included, treat the screen as an array of pixels that must be addressed in some system-dependent manner. This is another example where you must be an expert on your computer before you can program it. Drawing graphic images in such environments requires that you, within your program, convert between whatever Cartesian coordinate system your image is defined in, and your machine’s pixel-oriented, screen coordinate system. To

accomplish that, you will need to be familiar with many of its intricate design details. You will need to understand concepts like bit planes and memorize raster sizes. The result is often cryptic system-dependent code that is difficult to read and maintain. Never mind trying to port it to another platform, even modifying it for a different screen resolution on the same computer may require considerable skill and effort. Also, execution speed may be poor since all coordinate translation operations are being done within your program, at a high level, rather than within the language itself, at a faster, lower level.

True BASIC is different. It addresses the screen directly in scalable Cartesian coordinates, the same ones that you use to describe your graphic image, entirely independent of the raster.

High Level Graphic Features

There's more to graphics than just scaling. Modern programming theory dictates that to draw complex images you should divide them into their various elementary parts as independent program units (called PICTURES in True BASIC) and invoke them hierarchically as a single graphic object. True BASIC fully supports this concept, called structured drawing, with high level commands that scale, translate, and even rotate PICTURES relative to each other as required to produce some desired image. Look at the following example, which renders two different chess pieces.

```
OPTION ANGLE DEGREES
SET MODE "LACEHIGH2"
SET WINDOW -2, 2, -1, 4, 1, 4
FOR Angle = 0 TO 360 STEP 90
  DRAW Knight WITH SCALE(.7)*ROTATE(-
    90+Angle)*SHIFT(COS(Angle),SIN(Angle))
  DRAW Rook WITH SCALE(.7)*ROTATE(-
    90+Angle+45)*SHIFT(COS(Angle+45),SIN(Angle+45))
NEXT Angle
END
PICTURE Knight
) DRAW BuildKnight WITH SHIFT(-.3, -.4)

END PICTURE
PICTURE Rook
) DRAW BuildRook WITH SHIFT(-.3, -.4)

END PICTURE
PICTURE BuildKnight

DRAW Base
DRAW Horse WITH SHIFT(0, .25)

END PICTURE
PICTURE BuildRook

DRAW Base
DRAW Body WITH SHIFT(.1, .25)
) DRAW Castle WITH SHIFT(.05, .6)

END PICTURE
PICTURE Horse
```

```
15, .25; .15, .15;
. PLOT .1, .15; .1, .25; 0, .25; .05,
05; .15, 0
FLOOD .25, .2

END PICTURE

PICTURE Base
PLOT AREA : .0, 0; .6, 0; .6, .05; .5,
15; .5, .25; .1, .25; .1, .15; .0, .05

END PICTURE
```

Each chess piece consists of more than one elementary part. The Knight has two: a base, and a top called Horse. The Rook has three: the same base, a body, and a top called Castle. Each part is drawn within its own independent PICTURE unit using normalized device coordinates (a zero to one grid with reference at the bottom left corner), in which its shape is most conveniently described. Then the parts are joined together within parent PICTURE units by shifting them relative to each other. For example, the Knight is built by raising the Horse 0.25 unit so that it sits on top of the Base. Then the completed chess pieces, each consisting of the combined images of its parts, are prepared for display within other parent PICTURE units, which shift them so that the zero reference is at their geometric center, around which they can later be rotated if desired. Finally the main program performs whatever SCALE, ROTATE, and SHIFT operations are required to place each chess piece at its required locations in the final image. Did I say that the pieces were scaled? Yes, each image is drawn at 7/10 its original size.

The high level graphic operations in the main program treat each chess piece as

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For this reason it is a natural environment for designing CAD applications.

The above example, although a little long, should be easy enough for anyone, even non-programmers, to appreciate. It is true that some of the operations could have been combined together into the same

Modern programming theory dictates that to draw complex images you should divide them into their various elementary parts as independent program units and invoke them hierarchically as a single graphic object.

```
* PLOT .1, 0; .5, 0; .6, .1; .45, .4; .
4, .6;
3 PLOT .35, .6; .3, .52; 0, .4; 0, .3; .
1, .3; .2, .25;
- PLOT .05, .15; 0, .072; .1, 0
FLOOD .3, .25
```

END PICTURE

PICTURE Body

) PLOT AREA : 0, 0; .4, 0; .3, .35; .1, .35

END PICTURE

PICTURE Castle

/ PLOT .15, 0; .35, 0; .45, .05; .5, .25;

.4, .25;

4 PLOT .4, .15; .35, .15; .35, .25; .

a single graphic unit, or object, despite the fact that they really consist of two or three separate parts. Each image is rendered simply by invoking the root PICTURE unit of its hierarchal structure. All underlying invocations and graphic translations are performed automatically. This is the kind of hierarchal structure that is recommended in most graphics programming textbooks for rendering complex images, and True BASIC is the only language that fully supports it.

PICTURE units; however, my purpose here is to demonstrate what is possible in principle. It should be apparent from this example that True BASIC can handle graphic images of any level of complexity.

There is a lot of graphic manipulation going on in this example. The same program written in another dialect of BASIC, or even C or Pascal for that matter, would be a complex mess of coordinate translations and matrix operations. It

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would certainly be beyond the capability and patience of the average hobbyist, and perhaps even challenge an advanced programmer. If you doubt that, I invite you to verify the underlying theory in any

project into some number of independent, fundamental program units (SUBROUTINES, FUNCTIONS, and PICTURES), each representing the solution of only one small part of a programming problem, and to invoke them in a hierarchical manner such that they all work together to complete the solution. It's similar to the idea of structured drawing, except applied to program logic. One of the main reasons why this process facilitates the design of complex projects is that it prevents different parts from interacting in ways that you did not plan. A formal principle in computer science, called "Information Hiding," is at work here.

Many dialects of BASIC advertise that they support this, but in fact most fail to fully meet the requirement. Take AmigaBASIC, for example. Fundamental program units called SUBPROGRAMS can be designed as independent units, but they cannot be joined together hierarchically. A SUBPROGRAM in AmigaBASIC cannot invoke another SUBPROGRAM. Execution must return first to the main program. Thus, AmigaBASIC's structure is limited to only one level deep. Although it is often difficult for beginners to appreciate, this shortcoming of AmigaBASIC severely limits its ability to handle today's complex programming requirements.

In contrast, True BASIC supports any level of structure. Fundamental program units can invoke each other hierarchically in whatever way is required to solve any complex project. Indeed, they can even

something that is usually thought to be possible only in C or Pascal.

True BASIC's structured properties make it exceptionally good in this area. With MODULES, projects can be designed such that the same high level SUBROUTINE CALLS are used to operate on different sets of data, even data stored in completely different formats. The language's disk INPUT/OUTPUT capabilities default to conditions that offer you the most protection for your data. This translates to ease of use. As a simple example, remember what happens in AmigaBASIC when you want to add something to the end of a data file but accidentally forget the APPEND option when you OPEN the channel? You lose all your previous data. Such disasters can't happen in True BASIC.

Program units in True BASIC can be grouped together into files and used as resources by any other program. They can exist either in source code form, or compiled for safe distribution. This is not the same as the LIBRARY statement of AmigaBASIC which allows direct access to the Amiga's operating system. In this case we are talking about external SUBROUTINES, FUNCTIONS, and PICTURES that you design yourself, or that you obtain either from public domain or from True BASIC's professional programming toolkits.

Closely related to this is True BASIC's alias capability which allows you to properly organize your LIBRARIES for use

Program units in True BASIC can be grouped together into files and used as resources by any other program. They can exist either in source code form, or compiled for safe distribution.

standard textbook on the subject, like *Mathematical Elements for Computer Graphics*, Second Edition, by David Rogers and Alan Adams, 1990, McGraw Hill. Or, simply try designing it yourself in another dialect. By supporting structured drawing, True BASIC puts the power of sophisticated graphics into the hands of ordinary people.

Program Structure

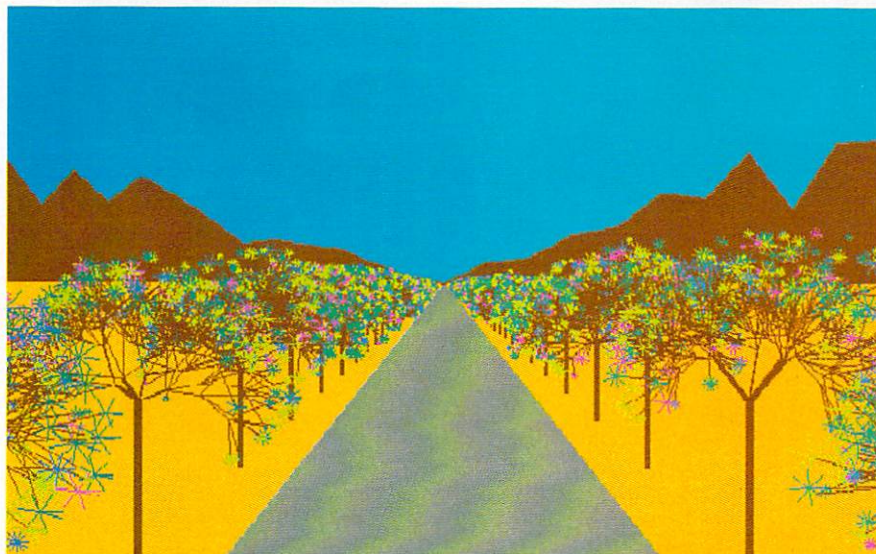
Program structure refers to the ability of a language to allow you to divide a

invoke themselves recursively, a requirement of many advanced algorithms, and another feature lacking in AmigaBASIC. In addition, True BASIC's new MODULE feature adds to this by allowing you to group any number of program units together such that they implicitly share certain pieces of information, while at the same time conceal them from the rest of the project. Even the SUBROUTINES and FUNCTIONS themselves can be concealed from different sections of a project,

in complex projects. The same alias feature is a part of True BASIC on other platforms, thus facilitating the porting of complex projects. The Amiga "Student Edition" comes with a good example that demonstrates how to use all this. It's called ButtonLib and is in the UserLib directory.

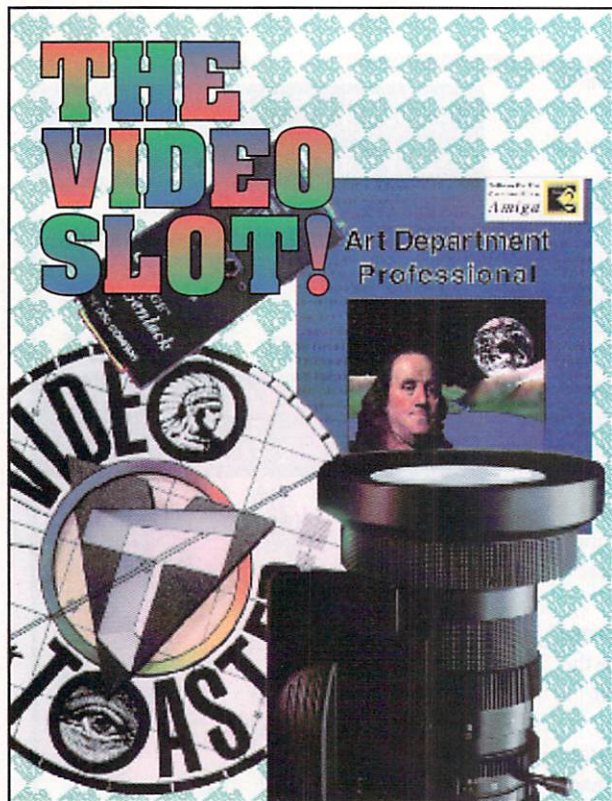
LIBRARIES can be accessed by your programs from disk, or made a part of the language system itself (in executable memory), thus reducing compile times on complex projects. The concept is called a

As you dig deeper and deeper into True BASIC, you begin to realize that Kemeny and Kurtz were very serious about making a language that was both powerful and easy to learn and use. Simply put, True BASIC makes it easy to get things done. No matter what you want to do, the language remains transparent; that is, it allows you to solve your programming problems without



If you are considering learning to program, and you do not intend to devote your entire life exclusively to that activity, then you should carefully weigh your decision of which language to learn and use. I recommend you take into consideration its relative difficulty, its general acceptance, and its stability. It should be well supported academically, either in the

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This month: New features of Imagemaster for Video, Special Effects for the Movies, and Digital Morphing!

by Frank McMahon

Considering the advertising blitz and the extensive array of features Black Belt's Ham-E unit held, it's demise is ultimately unfortunate. While the mainstream swooned over Digital Creation's DCTV display, power users tapped into Ham-E's ability to do paint and processing features that were unheard of on the Amiga platform. While DCTV's software advances have slowed to a crawl and *Art Department Professional* has filled in the processing gap, nothing can match the sheer volume of features that the current Imagemaster (formerly Ham-E's Image Professional) boasts. If anything else, Ham-E showed a need for display enhancement boards on the

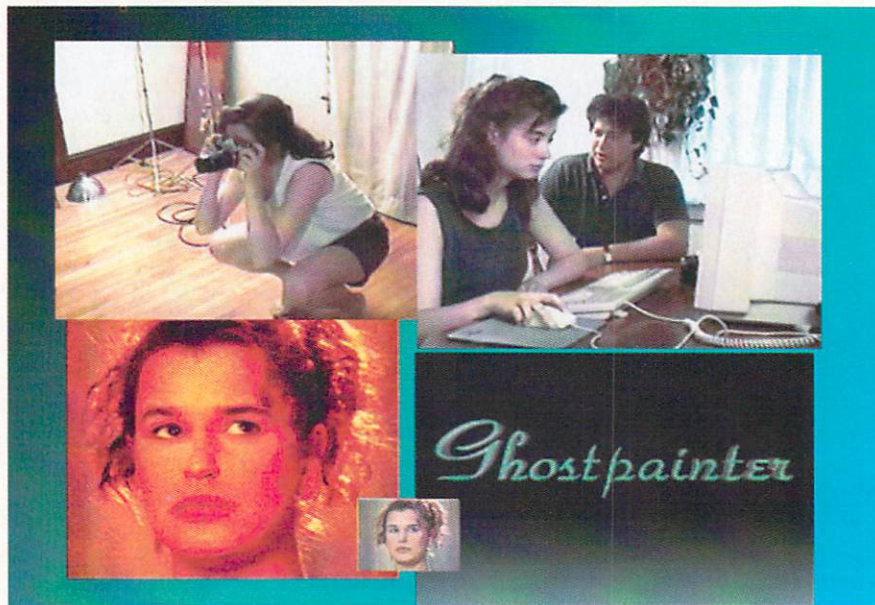
Amiga, and it is those enhancement boards that have developed in the past year that Imagemaster supports (such as the Firecracker, Resolver, and even nemesis DCTV).

Imagemaster has so many features—a few hundred at least—that this month I'll key in on specific uses for video production work. In addition, we'll take a look at the new enhancements of the just released Version 9.12, its role in a movie I directed, as well as highlight a companion manual for Impulse's *Imagine 2.0*.

Imagemaster Does Video

Imagemaster is in essence a pixel manipulation program. It can take any image and perform numerous special effects to it. Image formats supported are: IFF, IFF24, JPEG, PMBC, RGB8, TARGA, RAW, and DCTV with more formats constantly being added. All images are converted to 24-bit (including DCTV due to some slick programming) upon loading. This means that all processing takes place using a palette of 16 million colors. You don't need a special display board, as all processing can be converted to standard Amiga resolutions such as HAM (although a specific version, Imagemaster F/C, is available for Impulse's Firecracker, allowing all work to be done on-screen in full 24-bit). Since images can be saved in 24-bit (hi-res overscan) they can be directly loaded into the Video Toaster's *ToasterPaint* program. In fact, digitized images, paintings, Lightwave renderings, and CG pages saved in *ToasterPaint* as RGB files can be loaded directly into Imagemaster.

This opens up endless possibilities. Here are just some of the effects you can produce: Contrast, brightness, sharpen, color negative, line art, motion blur, white balance, antique, watercolor, radical/spiral blur, relief, shadowed elevations, radical waves, rotation, stretch, noise, dither, mirror, shear, shine, melt, oil brush, and a hundred or so other effects too numerous to mention. A perspective mode is also included. If you've worked with *DeluxePaint IV*'s perspective effects you'll



The Amiga is used on camera in the author's film and Black Belt's Imagemaster software is utilized for some post-production effects and animation.

be right at home. The difference is that Imagemaster does 3-D perspective in full 24-bit to create amazing effects. User Convolve is basically the same as Art Department Professional's convolve. This allows creating your own special effects using a numerical grid. Imagemaster also has extensive 24-bit painting tools which can be used to create backgrounds for Toaster and video presentations. The rich array of spreads, palettes, real-time color mixing (Firecracker version only), and paint methods produce fantastic tints and color effects.

Processing on the Movie Set

Recently I completed work on a film called "Ghostpainter" and I used Imagemaster's capabilities for various post-production work. The plot revolves around a man who can no longer paint. He hires a photographer/painter to secretly produce work under his name. The hired artist uses an Amiga in the film to process the photographs. All processing was performed using Imagemaster and the graphic that accompanies this article contains one of the converted photos. The small inset is the original digitized image of the model and the larger one is the final result using a mixture of antique, luma dither, and

contrast controls. In addition the opening title sequence—which was rendered using *Caligari* and *Broadcast Fonts 3D*—was also processed using Imagemaster's batch processing. Aside from working on individual images, Imagemaster allows processing many images at a time and producing sequences of images—in 24-bit or whatever other format you choose. This allowed me to process a series of frames rendered by *Caligari* all at once. This can also be accomplished automatically via ARexx. Here's an example script to slowly increase contrast in an animation of an image:

```
'options results; /* Tells Imagemaster to
                    return result */
'entire'; /* select entire image to process */
'tween 0 100'; /* tween value variable */
'contrast'(result; /* apply tweened
                    amount, change smoothly */
'finish'; /* end of script */
```

In a minute or two, you can use the many ARexx commands to create a script like the one above to add a gradual effect to your set of images. That means sequences created in Deluxe Paint, Imagine, Caligari, Vista Pro, Art Department, or any other Amiga program can be processed using the wealth of Imagemaster features. There is even a feature called "Filmstrip" which lets

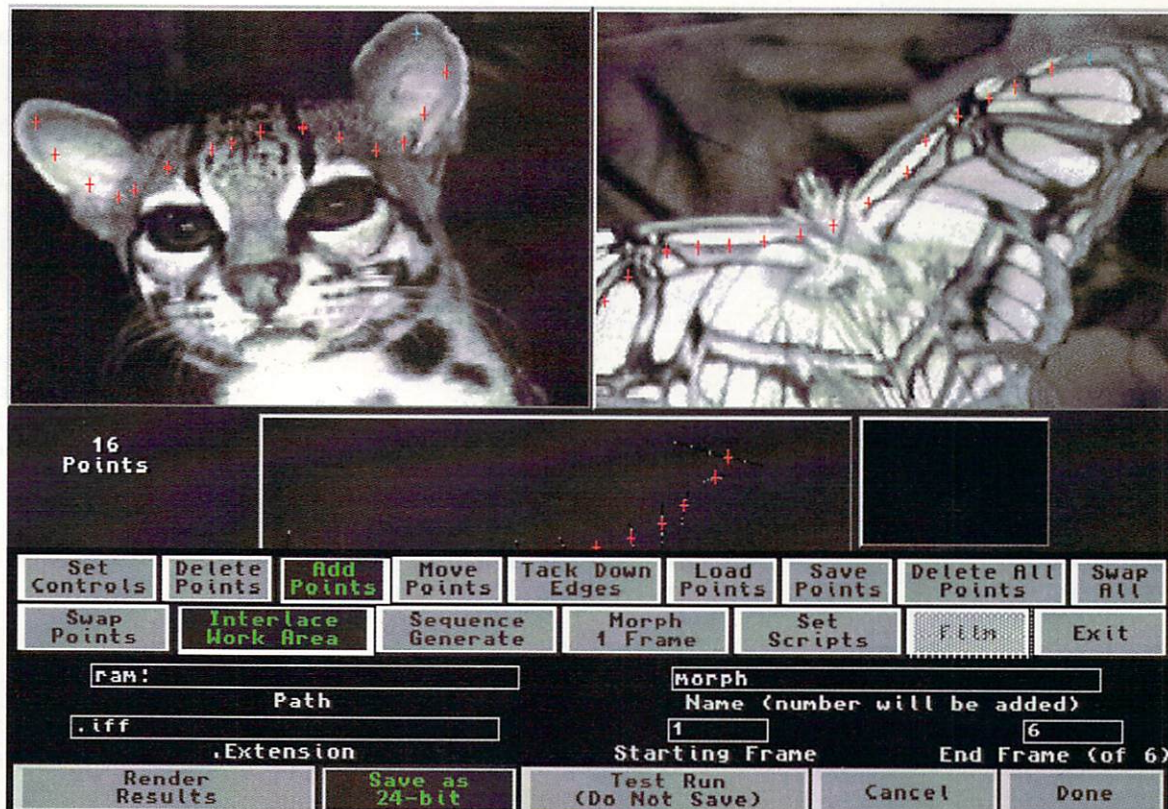
you see a small representation of each frame as it's being processed.

Animated title screens created with Deluxe Paint IV's Move requester can be colorized and tinted in 24-bit. Add motion blur to a *Caligari* film. Throw in a ripple effect over an Imagine animation. There's no limit to the endless options.

Morphing

One of the newer effects is Morphing. Morphing is handled on a separate screen and the method is straightforward and simple. The idea here is to create an animated sequence that transforms the first image into the second. You've seen the effect in numerous videos and movies. The method Black Belt uses is a series of control points. Just click to add them or move them. If you want to change a woman to a lion, just add a control point where her eyes are and then add the alternate point to where the lion's eyes are. It's that simple. More control points create a more natural transformation however it does take more processing time. Not limited to people (or cats), anything can be morphed such as a title sequence where one word changes into the next or a logo for a video company that morphs into a camcorder.

Imagemaster's main Morph control screen can seamlessly turn a cat into a butterfly.



Here's a tip: Many users start out using two completely different images and are not too pleased with the amount of control points and memory they need for a smooth transition. My advice is to use two similar images. Try digitizing a person and then copy the file and load it into a paint program such as DCTV paint. Change various facial features—maybe turn him/her into a vampire—but leave the basic body structure intact. Save that file and then load that and the original into Imagemaster. Now when you do a morph you'll need a lot less control points and the end result will be a much more realistic. This feature is an excellent one that could have been developed into a stand alone program. The good news is it is included in Imagemaster and unavailable anywhere else (except maybe in Hollywood). Deluxe Paint IV does contain a method of morphing, but it is crude and uncontrollable compared to the sophisticated method contained in Imagemaster.

can use a separate monitor specifically for your processed 24-bit output. Not only that, but Imagemaster now constantly updates the separate monitor with 24-bit information whenever a change is made to the image or series of images. Several variables are available for setting the resolution modes of the Firecracker board. Also new is the Custom Shapes loader which allows a shape to be the starting point for processing, composition, and painting. Numerous shapes are included with the new update including stars, octagons, triangles, geometric designs, skylines, and more. These shapes load in as wireframe representations and the user alters the size with the mouse. Once set just choose an effect and the process will take place only within the shapes parameters. So you could load in a design, choose antique, and the design will be stamped down on your picture using antique colors. New designs can be created with ASCII text and graph paper. Hopefully, an easier method is in the works. Many new shapes are entering the

Imagine entitled "Understanding Imagine 2.0." What's wrong with the manual that ships with Imagine? Well not much. As a matter of fact, it is Impulse's finest effort yet to break down the program into digestible tutorials and information. However, it is very dense and must be read in the order it is arranged, since it is more a 250 page grand tour than a reference manual. Understanding Imagine 2.0 is so neatly laid out, clear and concise, stuffed with so much supplemental information, reference material, and along the way tutorials that it should be purchased at the same time as Imagine. It is a large spiral bound book which lays flat and is very easy to peruse. The big difference between this manual and Imagine's own is Steve's book allows skipping around. Also it's reference sections are so clearly defined that it makes looking up specifics all the more easier.

Understanding Imagine 2.0 is also more to the point, being less talky and offering concrete cross reference material in the margins. Imagine's own manual takes

Imagine 2.0 has been shipping for a while now and it remains one of the most powerful 3-D animation programs available for the Amiga.

Imagemaster Version 9.12

Imagemaster is the most updated program in the history of the Amiga with new versions coming almost monthly. The latest is 9.12 and it brings with it some hot new additions. First of all, Imagemaster now generates ANIM files. While from the start the program could process multiple frames and save them under various resolutions, there was no compiling of animations. Now there is. Anim OP-5 is the standard animation format and the program can now produce animations in any rendered format, the most notable being DCTV. Rather than settle for HAM or hi-res anims, users can produce animations in about 2 million colors in video resolution using the DCTV unit. In the future we'll see 256 color hi-res 24-bit animation and Imagemaster will be ready.

Automatic custom display updating for various boards is in development and the first module, for the Firecracker board, comes with version 9.12. Normally with the Firecracker you have to use overlay mode where the Imagemaster control screen is keyed over your 24-bit images. Now you

public domain and can be downloaded from major BBSs including Black Belt's own bulletin board.

There are so many features in Imagemaster that it would take a years worth of Video Slot columns to truly do it justice. It is a tremendous aid to the video professional allowing limitless manipulation of digitized images, animation sequence generation, 24-bit processing and true color painting, and enough special effects to add dazzle to any production. If you have a Firecracker board, then this package is a must. DCTV, Resolver, and other hi-color board owners will also see the true effects of this powerful software although the program works just as well in standard Amiga resolutions. Toaster users can add effects that the Toaster's own ChromaFX cannot even begin to approach.

Imagine 2.0 Help

Imagine 2.0 has been shipping for a while now and it remains one of the most powerful 3-D animation programs on the Amiga. To compliment the new version, Steve Worley has released a manual for

the user by the hand for more detailed tutorials however it is tough to quickly find specific information. If you plan on upgrading or purchasing Imagine 2.0 in the near future, pick up a copy of Understanding Imagine. I would recommend using it as a substitute teacher over the original manual, but later on investigate the wealth of material Impulse's own manual provides.

That's about it for this month. Next time we'll look at the role of CDTV for the video user. If you thought of it as only a glorified Amiga 500 game machine you're in for a big surprise. Tune in next month.

•AC•

Please Write to:
Frank McMahon
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140


```

END
DO m=0 TO limit
MOVESOF
SAY m: 'entry.m'
FIND 'entry.m'
IF RC=0 THEN ITERATE m
IF line.m=entry.m THEN sp= ' ;ELSE sp= '
IF RC=0 THEN line.m=line.m||sp||chap-'k'
END
END

CALL OPEN('out','RAM:index','W')
DO n=0 TO limit
CALL WRITELN('out',line.n)
END
CLOSEDOC QUIET

EXIT 0
END

ELSE DO
SAY 'ERROR OPENING FILE!!' output
SAY 'Create file 'output' ? Y/N'
PULL ans
IF ans='Y' THEN DO
CALL OPEN('T',output,'W')
END
EXIT 20
END

```

Listing 8

```

/** $VER: Documentize.ttx 1.0 (26.12.90)
**
** Many word processors and desktop publishing programs
** require line feeds to occur only at the end of
** paragraphs. Since TurboText is a text editor and not
** a word processor, it terminates each line with a
** linefeed. This macro will let you use TurboText to
** create documents for import into WORD processors and
** DTP programs. Basically, it sets the right margin
** WAY out and formats each block of text into one very
** long line. You can then save the file and allow your
** word processor, or DTP program to handle wrapping the
** lines.
**
** Written by Denny Atkin
** Modified by Martin Taillefer
** Modified by Merrill Callaway 6-22-92 to operate as
** an external function as well as a macro.
**
**/

```

OPTIONS RESULTS

```

/* The block below allows pgm to be called as an
/* external function:
/* "CALL DOCUMENTIZE.TTX docadd" where docadd is
/* the address value of the calling document.
/* This allows the routine to finish BEFORE the
/* rest of the calling pgm finishes. It runs
/* normally if used as a macro.
*/

```

```

TRACE OFF
PARSE ARG docadd
IF docadd == '' THEN DO
ADDRESS VALUE docadd
END

```

```

/* End of external function modifications. */
GetPrefs RightMargin
OldMargin = RESULT
SetPrefs RightMargin 32000
SetDisplayLock ON

```

```

MoveSOF
DO UNTIL RC == 0
FormatParagraph
MoveDown
END

```

```

SetPrefs RightMargin OldMargin
MoveSOF
SetDisplayLock OFF

```

```
EXIT 0
```

(continued on page 92)

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ROOMERS

by The Bandito

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Commodore News

Commodore has announced that the 500Plus is no longer being produced for the U.K. market. From now on, once existing stock is cleared out, the A600 is the low-end Amiga in the U.K. Rather amusing, don't you think? We've never even seen the A500Plus over here, and it's already been retired. However, the Bandito has learned that Commodore may yet decide to replace the A500 over here with the A500Plus, since the U.S. market is a little more demanding than the U.K. market. Still, as long as price is important, Commodore U.S. may decide that the A500Plus is just too expensive for this market.

Speaking of the A600, the Bandito hears that a number of software developers are shaking their heads over the way Commodore configured the hardware. "It would have been great if Commodore had made the A600HD the standard," said one developer. "Then we would have a new Amiga with a standard hard drive, which would mean much better games." As it is, the developers have to expect that most people will buy the cheaper A600 without the hard drive, and thus games will still have to be written for floppy-only use.

New Distribution for Amigas

Commodore seems to be trying harder to deal with their problems in the U.S. market. Realizing that one of the big problems the Amiga has is its extremely limited distribution, Commodore has reached an agreement with Merisel Inc., one of the largest distributors in the U.S., to distribute Commodore's entire multimedia PC product line, including the Amiga PC series and the CDTV Multimedia Player to U.S. resellers. This agreement marks Commodore's first entry into the national PC distribution channel.

So Merisel will be trying to flog the Amiga line to computer dealers around the country, and hopefully this will result in the Amiga being available in a lot more computer stores. Of course, it remains to be seen how successful Merisel will be at getting retailers to carry the Amiga. It seems that their angle will be, of course, multimedia, today's hottest marketing buzzword. Computer dealers love multimedia because they get to sell lots of expensive add-ons—things like speakers, video cards, video equipment, color printers, and so on. And Merisel loves multimedia because those products have a great markup.

Now we'll have to see how hard Merisel really promotes the Amiga lineup, and how well Commodore supports Merisel's efforts. And what does this mean to existing Amiga dealers? Unless the Merisel agreement results in a lot of brand new buyers for Amiga products, it's bad news. You see, existing Amiga product buyers might well abandon their current dealer and buy from a new dealer; that is, if they aren't already buying their goodies from a mail order house.

Of course, Commodore is pleased with this agreement. "Partnering with Merisel provides us with a strong distribution arm in the U.S. and will give us added reach in marketing the Amiga and CDTV product families," said Commodore President James Dionne. "This agreement is representative of our continuing commitment to aggressively market this technology." You may wonder a bit at the "aggressively market" part of that statement; but it's true that Commodore has put most of its effort in the U.S. into pushing the Amiga towards professional users. They've been doing a lot of advertising in trade magazines, for instance.

Listen to another quote. Commodore Vice President of Professional Sales, Geoffrey Stilley said, "Merisel has a great reputation for assisting its value-added resellers with their vertical market sales. Our products specifically benefit users in the fields of interactive training, advertising, graphic design, video and presentation graphics." So you can see where their focus is with the Amiga in the States. Commodore's looking for professionals in specialized fields to buy Amigas, not hobbyists or gamers or business people. Even the A500 and CDTV are being positioned at professionals, by calling them "low-cost delivery systems for multimedia," the idea being that you create things on the expensive Amigas, then use a CDTV to show off your creation in a kiosk or something.

So far, this strategy hasn't resulted in a lot of sales; the Amiga faithful are still the best customers, and Commodore hasn't been attracting that many new buyers. Here's where Merisel can help. Merisel Inc. is the world's largest publicly held distributor of

microcomputer hardware and software products. The company presently stocks products from more than 700 manufacturers for sale to 50,000 resellers worldwide. It currently maintains 16 distribution centers that serve North America, Europe, Latin America, and Australia. Merisel sells more than 10,000 products and offers a wide range of services to support resellers with the sales of these products. So Commodore is hoping that Merisel can use some of that clout to push Amigas. Merisel, on the other hand, sees better margins in Amigas than in the hordes of PC clones that are all bitterly competing in price.

We'll have to see what the end result is. The Bandito is particularly interested in what Commodore plans to do about the hobbyist and home market. Will the A600 replace the A500 over here by Christmas? Will the A500 Plus ever appear? Commodore hasn't announced anything yet, but the word leaking out says that the A500 will definitely be replaced by the A600, if for no other reason than the A600 is less expensive to manufacture. Of course, the A600 lacks the expansion capabilities of the A500, and thus may not be as popular. The A500 Plus, alas, may never surface over here. Commodore will push users who want more power at the still unnamed A2000 replacement.

Amiga Crushes the Toogis

The Amiga may not have conquered the endless legions of PC clones, but our faithful computer has beaten up some of its opposition. The venerable Atari ST has been functionally dead for years now. And so has the machine that Apple once touted as an "Amiga-killer" — the Apple IIGS (known as

the Toogis amongst industry insiders). This poor underpowered, overpriced beastie never really had a chance, between the less expensive, more powerful Amiga and Apple's own Macintosh line, which Apple pushed much harder than they did the IIGS. The Bandito hears that Apple is finally retiring the Apple IIGS, but without fanfare, of course. They wouldn't want to make too much noise about this, not after the company's marketing slogan: Apple II Forever! So the Toogis will die a quiet death, as Apple hopes to avoid negative publicity from Apple II fans. The Toogis leaves the official Apple price list in October, according to sources. R.I.P.

Meanwhile, Apple is wooing a number of major consumer electronics chains, hoping to line up places to sell their new line of

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"consumer Macs" for Christmas. Apple has lost a lot of ground in the home computer market, and they want to regain that market share. Doubtless, Apple will have a lot of television commercials and print advertising to back up their products. Will Commodore stage an aggressive television campaign this fall? Don't bet on it; the Bandito hears that until the U.S. sales start to pick up, Commodore will be conservative with their marketing money. Let's see, if you don't spend the money, then sales may not pick up. Seems like a self-fulfilling prophecy, doesn't it? But Commodore has tried spending lots of money on consumer advertising for Christmas before, with never enough Amiga sales to justify the expense. Of course, one might say that they never had the right ads. Still, you can understand why Commodore's leery of spending a lot.

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Video Tidbits

The Bandito has learned that NewTek will be offering a D-2 compatibility option for the Toaster. What's D-2? If you have to ask, you don't need it. It's a professional video standard used on very expensive video gear. Apparently, the Toaster has always used D-2 internally, so this add-on isn't very difficult to do.

Meanwhile, there are several places that are trying to come out with their own competition for the Toaster. One longtime PC graphics company, Matrox, has come out with a five-board set for PC clones that promises to do just about everything you'd want to with video: editing, effects, 3-D graphics, titling, sound editing, three TBCs, mixing, chroma key, the works. Of course, it does cost \$16,000, without the PC clone. Oh, and don't forget you do have to buy the VCRs to go with this, and a few other odds and ends. The total tab is estimated at around \$40,000. Doesn't exactly seem like a real low-cost competitor, does it?

Something that's a little closer to home is the Video Machine from a German company called FAST. This is a board for PC clones that promises a two-input switcher, DVEs, genlock, keying, frame grabbing, etc. for around \$4000. When? Oh, perhaps by next year. Don't forget to buy a computer to go with it, too.

Opals From Down Under

Another piece of hardware that's beginning to look like a Toaster is coming up from Centaur, by way of Australia. This magic dingus is the OpalVision system, which is going to be arriving soon. At least,

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the first parts are; the system is designed to be modular, so you can upgrade to whatever capabilities you want as they become available. In the beginning is the OpalVision Motherboard and OpalPaint, which gives you a 24-bit frame buffer and paint program for \$995. Yes, that's right, another 24-bit paint program and yet another 24-bit display device. But these sound as if they have some great features that should distinguish them from the competition. One of the features the Bandito likes the best is the fact that OpalVision comes in an internal card for the A2000/3000 video slot, or as an external unit that plugs into the RGB port of any Amiga, including the A500/600.

They also include a presentation program called OpalPresents, for creating 24-bit slide shows. Important features: Amiga graphics and animations can appear in front of or behind OpalVision images on a pixel-by-pixel basis, and double buffered 24-bit and 15-bit animation can be performed in all resolutions.

Perhaps the Bandito's favorite piece of software included is the *King of Karate* game, billed as the world's first 24-bit personal computer game. For some reason, this game is included with the OpalVision package. Why not? Even graphic artists have to have fun sometime.

Opal promises that a complete range of enhancement modules will be available soon, including framegrabbing and genlocking, de-interlacing, digital video effects and input switching capabilities. The expansion modules connect directly to the OpalVision

Motherboard without tying up Amiga slots. Oh, and they'll throw in software to design and accurately sequence custom video effects and transitions. No word on whether or not it puts out the cat and feeds the dog, but perhaps that capability can be added later.

The heart of this system Opal Technology calls the OpalVision Roaster Chip, which does real-time processing and morphing of live video. Hmmm... wonder where they got that name. They say this chip can take any live video signal and perform all sorts of operations on it, including mapping it onto surfaces, for a variety of digital video effects. Of course, there's still a lot of software to be written, so we'll have to see if it can really do everything the Toaster can.

Of course, while this Opal stuff sounds like a real gem, we will have to wait and see

port mounted on the board, along with a box attached for even more serial ports. These serial ports can be set up as either MIDI or RS232C, with throughput in excess of 57,600 bits per second. There is one mystery port internally on the board; GVP isn't saying what it might be used for, but the Bandito hears that we'll be seeing some add-ons for it very soon.

GVP has announced the A2000 version of their G-Force 040 accelerator, which will ship with the 33MHz CPU installed. The system allows up to 8MB of 32-bit, 40ns RAM, and it supports burst mode access and copyback of the Kickstart ROM into the 32-bit RAM. Of course, you can always drop back to your native 68030 or 68000 for complete software compatibility. This board is just what you need if you're growing old and gray waiting for that 3-D animation to render. The only drawback is the price tag, but then cutting edge speed never comes cheap.

Oh, and after you've finished that 3-D animation and are looking for someplace to store it, GVP is coming out with a 1.2 Gigabyte magneto-optical drive. It's based on the Maxtor mechanism, and it also accepts the industry standard 650 MB cartridge. Data transfer rates are up to 13.2MB/Sec. The price? If you have to ask, you probably don't need it that badly.

Getting a New Foundation

Let's see, hypertext is where you jump around a lot, right? That's just what's happening to the hyperprogram *Foundation*—it's jumped from Imagine to Parallax Publishing. (Apparently, Parallax pulled the rights from Imagine and decided to market it themselves.) They promise an upgrade to

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what develops. We were seeing demos of the Video Toaster for years before it actually appeared as a product. Speaking of that, what's happening at NewTek? We know they're working hard, but so far there hasn't been much in the way of new product announcements or even leaks. The Bandito hears some interesting things told about Toaster 3.0 software, including an entirely new interface and a much more powerful paint program; the other hot item on the list is user-definable video effects. When will we see this? Sometime in 1993, according to the Bandito's best data. You know how software development goes.

GVP Products

GVP has a few more products in the works; among them is an I/O board that provides two serial ports and one parallel

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Version 3.0 in the near future, as well as an improved manual. If you're in the market for an authoring tool, there's getting to be quite an array of choices out there. But competition is wonderful, isn't it; that's how we get the very best software.

Scala'ing the Heights

Speaking of pulling software, Scala Inc. has pulled the rights to their Scala presentation software from GVP. Scala Inc. has decided to market the product themselves, and they have version 2.0 on the way to provide a host of new features. Version 2.0 includes the ability to display DCTV graphics, the ability to preload animations and graphics, and features both 'hot key' and timed activation. A number of new wipes are also included, allowing transitions between text and graphics. Scala believes that their program is better than some dedicated title generators at creating titles, and they intend to promote the program that way in the U.S.

Omega Sound Enhancer

The Bandito hears that a small company has come up with a device that promises to punch up your Amiga sound. The Sound Enhancer from Omega Projects of Cheshire, England is a small widget custom-designed to boost the frequency response of the Amiga sound circuits. It plugs in between the Amiga's sound jacks and your monitor or stereo system, and takes power from the serial port via a 25-pin pass-thru connector. On the front of the unit are two controls; one is a proportional knob and one is to activate the unit.

The net result is far punchier bass and a quite superb high frequency response. It's almost like having a new sound chip

installed in your machine. What'll it set you back? The Sound Enhancer lists for \$89.95.

HAM-E Mystery

Black Belt is still silent on the real reason behind HAM-E's removal from the marketplace; all they've said is that they can't answer due to a non-disclosure agreement with Commodore. Of course, the Bandito knows that many people speculate Commodore will use HAM-E technology to provide the basis for new color modes in the upcoming generation of Amigas. But don't jump to conclusions too fast; Commodore's bought a number of promising technologies before and never brought them to market.

Oxxi's Got Moxie

Oxxi has been in the Amiga software

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business since the earliest days, and they are still coming up with new things. The Bandito hears that there's some new versions of Aegis' Spectracolor; Version 3.2 adds severe overscan, the ability to work with brushes larger than the screen, animations compressed in memory, color cycling of brushes, and quick animation frame page-flipping in edit mode. Also available is Spectracolor for HAM-E, though with that device off the market, you may not have a use for it yet.

Oxxi has also introduced *AudioMaster IV*, which includes oversampling, an "Amiga Disc Jockey" screen, and other enhancements. And the Aegis SoundMaster digitizer now comes bundled with AudioMaster IV. Aegis SoundMaster offers sampling rates as high as 56K in stereo, a built-in mike, overload light indicator, volume control, and both mono and stereo inputs for only \$199.95.

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The Bandito is most impressed that Oxxi is now selling Amiga Client Software for Novell NetWare. Now, you may not have a Novell network, but a zillion businesses do, and they expect any computer they buy to be able to hook into their network. So this means that Amigas will have more of a chance to appear on that corporate Purchase Order than they did in the past. Oxxi's implementation adapts any standard Novell NetWare network to allow Amiga computers to act as workstations or clients on the network. ACS can be added to any existing Novell NetWare system running V2.15 or higher. It's only available from Oxxi directly, but it's priced at a reasonable 200 clams, with discounts for volume purchases.

You may remember that the Bandito told you about Precision Software, authors of *SuperBase*, being bought by Software Publishing. Well, Software Publishing didn't really know what to do with *SuperBase* for the Amiga, so they've sold the product to Oxxi. Oxxi hopes to continue to upgrade and improve the product in the future.

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HOT TIPS

Barbarian II (by Psygnosis)

1. On the second level, you must kill the archer and obtain the grapple and hook that he is guarding. It's impossible to enter the castle level without these and they're useful for getting out of traps. On the same level, you can save life force if you squat in a corner. The creatures will surround you, but cannot harm you.

2. In the castle, activate every switch once, except for the rightmost chain in the left room on the left side of the first screen. The way out of the castle lies under the waterfall. Pull all chains in the right rooms. Most priests die from two spear shots. The key to enter the dungeons is in the upper left room after the waterfall. Remember you can only carry three keys. If you are carrying three, you may need to go all the way back to the caves to find a door to waste a key on!

3. To pass the three doors in the dungeon, punch the middle switch, then the top switch, and then the bottom switch. If you do not have a shooting weapon at the switch high near the edge, you can go back to the previous screen and across the bottom to a door which leads to a bow. Arrows can also be found in the dungeon. The easiest way to kill Green Behemoth is a close combat and squat.

4. You need a shooting weapon to knock off Necron's heart. There is a crossbow nearby. Enter the top right door from Necron's screen, kill the beast, and walk all the way to the end of the corridor to open the door. At the end of the next screen is a crossbow. If you kill a priest, you get bolts. This takes practice. To exit, you have to jump on the right pedestal. Once you get Necron's heart, trap him on the spikes, and the game is over.

(Courtesy of Alexander Izmodenov, New York, NY)

Awesome (by Psygnosis)

At the status screen, hold down the plus key on the numeric keypad and the fire button on the joystick, and move the pointer to the top of the screen. The screen will flash yellow. Use the keys across the top (1 2 3 4 5 6 7 8 9 0 - = \) for the different weapons. F1 will replenish your ship's energy and F2 will take you right to the status screen.

(Courtesy of Sheri Buffington, Wake Village, TX)

Robocop 2 (by Data East)

A cheat screen appears if you type "serialinterface" when the title screen is showing.

(Courtesy of Jeremy Norman, Toronto, Ontario, Canada)

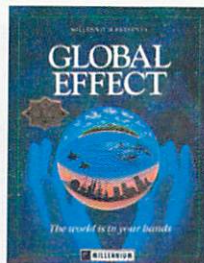
Congratulations

Alexander is the winner of *Black Crypt*, the game shown in last issue's column. Congratulations, Alex! The name of the winner will be published in next month's issue.

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Out of This World

by Miguel Mulet

Technology is truly progressing at an amazing pace. For instance, take the linear accelerator. Once just a twinkle in the eye of a physicist, it has now become a reality. Drawing scientists from all over the world, linear accelerators are being used to study many different physical phenomena—such as the creation of antimatter. Alas, research in this area has come to a halt, as the leading French physicist in charge has disappeared. All accounts show that he entered the Synchrotron late one night to work on an antimatter simulation, but both the computer and the professor disappeared. All that remained were the scorched remains of the computer center. Authorities speculate that the computer exploded when the complex was hit by lightning, destroying the computer and vaporizing the professor. Others more familiar with the professor's research, however, fear that he has suffered a fate worse than death—transportation to another dimension "Out of This World."

Interplay and Delphine Software, most noted for the game *Future Wars*, have created another universe for you to explore in *Out of This World*. You assume the role of Lester Knight Chaykin, transported to another universe as the result of a freak antimatter accident. With no supplies, and no idea of where or when you are, your goal is to find a way back!

Your character is controlled through this other dimension with the joystick. Moving the joystick in the appropriate direction also moves the character in the same direction. The fire button allows the character to kick, or jump. For a while, these are your only defenses against the alien obstacles which hinder your every move.

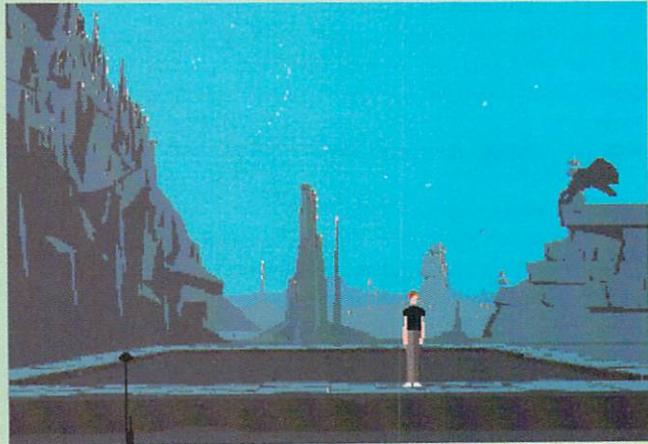
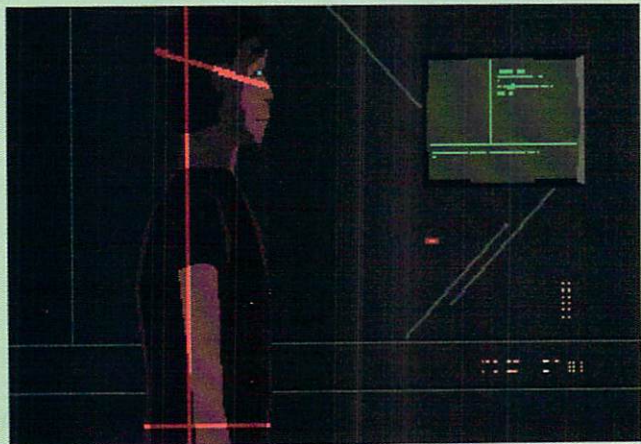
Provided on two disks, the game is easily installed on a hard drive. Copy protection is enforced using a code wheel, from which you must enter the appropriate sequence of symbols *twice* before being allowed to play the game. An excellent introduction acquaints you more with the events leading up to your transportation into the alien universe, and once you arrive, watch out! There are deadly aliens waiting at every turn, and if you don't come to them, they'll come to you!



The poor professor doesn't get much help in finding his way out. Documentation is provided in a sparse, four-page manual which really doesn't have much useful information aside from telling the player how to control our young Ph.D. Then again, that is where this game excels—in providing an adventure in which the player must explore and figure out how to destroy or evade the many obstacles which present themselves along the way. Be prepared to die hundreds of times while the character tries to make his way back. Fortunately, once you get by certain levels, a password provided by the game allows you to resume the game where you left off.

The graphics and sound effects are excellent, to say the least. The polygonal graphics, reminiscent of those used in flight simulators, have been applied to this action adventure with astonishing success. The graphics provide a 3-D look and feel to the game, which makes it seem all the more surreal. The sound effects are foreign, creating the ambiance of an alien world yet to be explored.

Overall, *Out of This World* is a great action adventure game. Its few shortcomings include the fact that dying is entirely too easy (and even frustrating—I almost gave up several times!), and also that once completed, the game seems almost too short. Nonetheless, *Out of This World* creates a new genre of action adventure game, one in which there is plenty to see and do. Take a look at this one.



Amy's Fun-2-3 Adventure

by Kim Schaffer

My son is six years old and my daughter three. For five years, I've been looking for a computer program that would be good for my son to use, since he always wants to play on it. A good program is one that will support, entertain, and show that learning is not a chore, but can be really interesting. I thought it would be easiest to find preschool educational programs. It wasn't easy. Most of the software that I did find was really just plain useless, or a rather bad attempt at converting a program from MS-DOS, usually with bad sound and low-level graphics. So when I saw *Amy's Fun-2-3 Adventure*, I was interested.

The first thing that impressed me was the easy installation on my hard drive. This may sound unusual, but for most of the software I've tried, installation appears to be no simple feat. I did have to make three assign statements for my startup, but they won't get in the way. *Amy's Fun-2-3 Adventure* is also very easy to use without a hard drive. It has very simple messages whenever a disk change is needed.

After installing the program, I let my son try it out first, well, OK, second. I found the program to be solid, full of attention-grabbing animations and excellent sounds. The program starts up with a nice animation where you meet Amy, a cute, cuddly dog who appears to be very talented. After you click on the screen, a new screen with four activity windows appears. Amy the dog patiently sits in the center of the screen, waiting for someone to select an activity.

From the top left, and clockwise, the activities are counting, matching a numeral to the number of items, matching the number of Amy's toes—five on each front paw—to a numeral, and music by numbers. All activities use only the mouse and the screen. There is

no printing, and after sitting through it once with your children to help get them oriented, they won't be bothering you much. There is one key that you will need; the escape key exits the program so you can get the kids to bed.

All four activities are oriented to one player. In the counting activity, Amy is in the doghouse waiting for some fun. A row of numbers from 1 to 10 appears across the top. The cursor is a bright, large arrow that is easily moved by the mouse. Either mouse button will do to select a number. Amy gets into the act by giving you something to count. It may be apples falling off the tree, fish swimming in the pool, Amy bouncing the ball, or several other activities that are extremely well done. As the items are counted by an easily understood voice, a smaller arrow appears under each number to reinforce numeral recognition. Activities are chosen randomly, and when they become tiresome, just select the animated red arrow to return to the main screen.

The activity where you match a numeral to the number of items begins with a little animation of Amy turning on the matching computer. After the matching computer is turned on, three windows appear. The center window displays a numeral with one to ten items on each side of the numeral. If the right window is selected, Amy gets a bone. Otherwise, Amy whines a little and the game begins again. The little red animated arrow is the key to get back to the main menu. After selecting the exit icon, Amy gets up, turns the matching computer off, and goes to the main menu.

The game in which one matches the number of Amy's toes to a numeral is the best game according to my survey. It starts off with an animation of a dragon, whose fiery breath has breached the castle wall. As soon as he realizes what he's done, he runs away, and our heroine, Amy, comes to save the day. The king asks Amy to rebuild the castle wall, and well, someone has to help. The wall is divided up into a grid. Each of the

lowest spaces has a number. You tell the crane operator where to put each block. Amy, with her ten little toes, shows you which number to select. Select the right one and it becomes part of the wall. Select the wrong one and the block blasts apart. Finish building the wall and Amy gets a cookie. Those little red arrows are there when it's time to bail out.

The last game is a xylophone. There are eight bars to the xylophone numbered 1 through 8. If the mouse is positioned over the xylophone the pointer becomes a hammer. Click the mouse and the hammer strikes the bar, which vibrates and gives a pleasant sound. Amy dances as you play, but will stop and wait for you if you stop. Select the treble clef and eight classic song titles even a child will recognize appear, each with a large icon. The first time my daughter saw them she guessed all of the right titles except one. After one selects a song, the xylophone reappears as does the score and a large numeral that matches the correct note. Only the right note will play, and I was able to recognize all the tunes no matter who was playing. The numbers and the score are scrolled as the song is played. When you've had enough, it's back to the arrows, though this time they're blue.

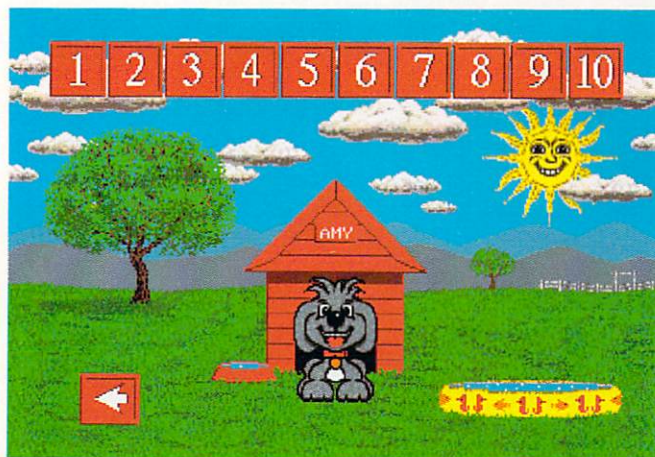
My son's only complaint came after he had played *Amy's Fun-2-3* for about an hour. There are only four sections. My three year old's only trouble was trying

DIVERSIONS

to get the whole arrow in the selection square. Only the point of the arrow didn't seem enough for her. After all, it was a big arrow, why use just the point?

I am greatly impressed with the quality of the drawings, animations, and sounds. The screens were all overscan drawings, some of the animations were four layers deep, and definitely gave a smooth 3-D appearance. All spoken words were very understandable, all sounds very pleasant, with the possible exception of Amy's whine, a sound I hear much too frequently from my dog.

Amy's Fun-2-3 Adventure does not have any addition or subtraction, even though it claims material up to an age of six. There are other good games that support those skills. I have not seen any software of this quality presented in early childhood education computer classes. Too many people seem to forget that the computer is the tool and not the lesson. This is definitely not true of *Amy's Fun-2-3 Adventure*. I hope Devasoft is hard working on an early alphabet game.



Youngsters who are learning how to count will have fun with Amy the dog.

Killing Cloud

by Miguel Mulet

The year: 2097. The place: San Francisco. A bad time and place to be a cop. It seems that continued pollution of our planet has resulted in a toxic fog, which rolled into San Francisco and has never left. One-hundred feet deep, the cloud envelops all of lower San Francisco, turning it into a deathtrap. Crime below the cloud has risen to such a level that the criminals now rule at that level, and are trying to bring the city to its knees. As one of the few police officers left, your job is to find and eliminate the criminal elements lurking beneath The Killing Cloud.

Killing Cloud is an action adventure game in which you assume the role of Lt. Sausolito, who is in charge of the investigation of the criminal element known as the Black Angels. The Black Angels not only have assassinated a large proportion of the governing body, they may also be behind the toxic fog known as the "Killing Cloud." Recent evidence has suggested that the cloud may actually be manufactured by the Black Angels, in

order to prolong their reign of terror over San Francisco. Since breathing any of the gas is lethal, you patrol the city in a vertical take-off and landing HoverBike XB500. The HoverBike, armed with 7.62mm machine guns and a 30mm cannon, also protects you from the elements on the outside.

Unfortunately, you don't have much backup while out on patrol. Besides your armament, your HoverBike is also fitted with projectile nets, which can envelop your suspect and his aircraft. Once you have spotted your suspect, deploying the net brings him to a halt. After you read him his rights, you can then call in a mobile jail cell to pick up the suspect. Unfortunately, the cell is unarmed, thus requiring you to escort the unit back to headquarters. Once there, the suspect is interrogated, and you're off on another mission. The game ends once you've apprehended all of the key players involved with the Black Angels.

Killing Cloud comes on two copy-protected diskettes, and also uses a key word lookup protection scheme at the beginning of each game. There is no provision for hard disk installation or to save a game in progress. Instead, at the end of each level, you are given a password which enables you to pick up where you left off. The 28-page manual/novella sets the stage well for the drama which is about to begin, even though the novella could have been better written. A 26-page comic book is

also included with the game, to help set the proper ambiance.

The game is fairly well executed, both in terms of graphics and sound effects. The graphics are pseudo-3-D, much like most flight simulators on the market. In general, each level does involve a generous amount of flying—not only to find your suspects, but to apprehend them as well. Joystick control of the HoverBike during these sequences is easy. Pushing forward causes the craft to dive, while pulling back on the stick causes the HoverBike to rise.

Even though it is extremely tempting to blast the bad guys into outer space, your main goal is to apprehend suspects so that they can be interrogated later. Sound effects are limited for the most part to the sound of your engines and gunfire, but both are well done.

Even though the majority of the game does sound like a flight simulator with an attitude, there is also plenty of strategy involved. At the beginning of each level, you have an idea where a suspect is heading or is headquartered. Before you hit the field, you can set up police barricades to prevent suspects from fleeing in certain directions. These resources are limited, so the police can't block every possible escape route, but they can aid the player in the planning of the mission.

Put all this together and you actually have an interesting, futuristic police flight simulator with a little bit of heavy gunfire thrown in to boot. It plays somewhat slowly on a stock Amiga, but this doesn't detract from the game. Also, the missions get progressively harder, so there is plenty of challenge and playability to find here. If you're interested in a different sort of challenge, why not tour San Francisco in a HoverBike underneath the Killing Cloud?

Crime Does Not Pay

by Miguel Mulet

"So you wanna be a Don? Let me tell ya, nowadays it ain't easy. Ya always gotta watch your six, know what I mean? Ya gotta earn your place in the bizness, an' work ya way up. At first, ya gettaway wit bribin' a few peace officers, and then work ya way up to the Chief of Police, or even a Judge. Rememba', the mo' people ya got in ya hip pocket, the further ya get. And if ya' wanna really run da show, ya gotta become the new mayor. Course, dat won't be easy, cause da current Don happens ta hold dat position. Dough the ol' sayin' maybe dat 'Crime Does Not Pay', ya job is ta make sure it does!"

Crime Does Not Pay is an action-adventure game in which your main goal is to take control of a city—illegally, of course! As a member of the Italian or Chinese Mafia, you must extort, blackmail, bribe, and shoot your way to the top. Only as Mayor of the city will you be able to bring Organized Crime to everyone.

At the start of the game, you choose whether you're going to join the Chinese or Italian Mafia. Once this decision is made, you can assume the role of one of three Mafiosi—a hitman, a hitwoman, or the Godfather himself. The characters can be interchanged by making your way back to the safehouse. Roaming the streets as one of these characters, your goal is to collect just about anything you can use. This includes ammunition, keys, money, and items which you can use to blackmail other characters. The ultimate in collectable prizes are detonators and dynamite, which you can use to heist the bank.

The characters are controlled with either the joystick or keyboard, and interestingly enough, keyboard control is a bit more precise than joystick control. Other than this, the interface is easily learned, allowing players to concentrate on both the strategic and arcade elements of the game. On the arcade side, just about any character may open fire on the Mafia, and thus a quick trigger



Beneath the cloud, the environment takes on an orange hue. Unfortunately, the gas is lethal.

finger is extremely useful. The drawback to this approach is that if you're caught firing your weapon in the presence of a police officer, they'll throw you in the slammer permanently. Firing sequences indoors and outdoors are handled differently. When within a building, selecting shoot from the menu brings up a set of crosshairs which you set on your target and fire away. If your character is out on the street, the joystick controls in which direction your pistol will fire.

Strategically, the game becomes very challenging. There are over 200 sites in the game in which you may find all sorts of evidence, blackmail material, dynamite, ammunition, etc. Planning your route is important, because you may need to find cash before you can bribe the bartender, or find incriminating material before you can bring the police around to your side. The map at the lower right portion of the screen can be a big help in trying to sort out where everything is. To make things even more difficult, your character can only hold five items at a time, so multiple trips may be necessary to different areas of town in order to collect everything that's useful.

The health of each character is monitored by a sliding scale at the bottom of the screen. When the health scale reaches zero, the character is "retired." If this occurs, you can select any of your remaining team members to complete the job. Lose all the characters, and you'll lose the game. Health may be restored to a character by visiting the doctor (provided you have enough cash), or by finding a first aid kit during your adventures. Games in progress can be saved, but only if you find a disk icon first. The number of times you save the game is limited by the number of disk icons you can find.

Game graphics and sound effects are adequate, but not spectacular. Interaction with items and characters on the screen is accomplished via buttons which appear at appropriate times. Actions are selected by moving the pointer up and down a list, and pressing the fire button. Thus, there is no typing involved at any point



in the game. A soundtrack plays throughout your explorations, and can be toggled on and off with a function key. Other function keys allow you to load or save a game, or just pause a game in progress. The 15-page manual adequately covers game basics. Unfortunately, the game is copy protected (but no code wheels or key word lookup).

Crime Does Not Pay isn't for everyone, because once you tire of returning fire to the many unfriendly opponents in the game, you're left with what is essentially an adventure game. Thus, over 200 sites must be explored before you can put all the pieces together and become the "King of Crime." If you're an adventure fan, you'll enjoy it because the plot is different. Between the Italian game and the more difficult Chinese game, there is more than enough gameplay available.

"So, wat mo' do ya want? If ya wanna give the Mob a try, take a few bucks to ya local dealer and bribe 'em out of a copy of Crime Does Not Pay."

John Madden Football

by Miguel Mulet

If you are either a football expert or a novice to the game, *John Madden Football* (JMF) lives up to its name. JMF boasts a good understanding of the game, and also includes a nice section explaining the rules of the game to the football novice.

To start the game, one must boot up off the first diskette. After a lengthy but extremely well done introduction, the player enters a two digit code from the manual as a form of copy protection. This is performed only once per game. The options screen is the next screen to appear, and there are certainly plenty of options available in this game. One or two players can share the action, choosing the team of their liking. You can even have the Redskins play against themselves! Control of the players can be performed

with the joystick or keyboard. The length of the quarter is also under the player's control, from 5 to 15 minutes. Choices of stadiums include grass or AstroTurf, domed or open sky. The weather can be fair, rainy and muddy, or cold and icy. Naturally, if you're inside a domed stadium, you don't get a choice.

After Madden reviews the pregame strengths and weaknesses of both teams, the game is ready to begin. The visiting team always kicks off, and the kickoff is under player control. The direction and strength of the kick can be adjusted, so that you can even start off with an onside kick if you want. The receiving team can control the ball carrier, while the opposing team can take control of the defensive player closest to the ball carrier. A tackle is made by holding down the fire button while pushing the joystick in the direction you want the player to tackle. Controlling the receiver is just as easy—just move the joystick in the direction you want the receiver to run. For an extra burst of energy, just hold on to the fire button. Once the kickoff is over, the real fun begins.

To start each play, three choices must be made by both the offense and the defense. The offensive team must call a set, a formation, and a play. A set chooses the group of players which will run the play, the formation determines the players' positions on the field, and the play actually determines whether the ball is to be passed or run. Each choice reflects upon the other, meaning that certain plays are naturally only available with certain formations. There is a wide assortment of plays, but the player can't customize his own.

Defensively, the player must also choose a set, formation, and a play. Although there aren't quite as many choices available to the



A set of choices appears when it's time to select the plays.

defense, there are still plenty to choose from. Once both teams have chosen their plays, it's time to snap the ball. If the play you've called looks like a bust once your team is on the field, you can call an "audible" to change the play (either side can do this). This can be used to correct for a terrible call or to keep the other side jumping.

Once the ball is snapped, the real action starts. Offensively, you control the ball carrier, whether this is the quarterback or the receiver. If the play involves a handoff, you control the player with the ball once it has been handed off. Defensively, you control the player closest to the ball. There are even provisions to intercept passes, or even to hit the ball carrier hard enough to cause a fumble. Special offensive and defensive teams are also available, adding to the great variety in John Madden Football. Another nice feature is that you can play in both a "pre-season" practice mode, or actually take a team through an entire season.

Game graphics and sound effects are everything you'd expect from a product by Electronic Arts. Digitized voices are used rather sparingly, mainly to hear the quarterback making his calls. Sound effects also include the heavy hitting sounds of American football, including all the pants, sighs, and grunts. Extra sound effects are offered if more than 1MB of memory is available. An excellent soundtrack also accompanies gameplay. Moves are well animated, especially during the touchdowns. Otherwise, however, graphics are limited to the players and the playing field, with not so much as a single spectator to be found around the field. The game intro is good enough to be a promo for a professional football game aired on national television!

Provided on two copyable diskettes, the game cannot be installed on a hard drive. JMF also includes a thorough manual, fully documenting all the features of the game. Plays are drawn out graphically so you know what your quarterback is calling, and a special section in the manual even explains the most elementary aspects of football if you're a novice.

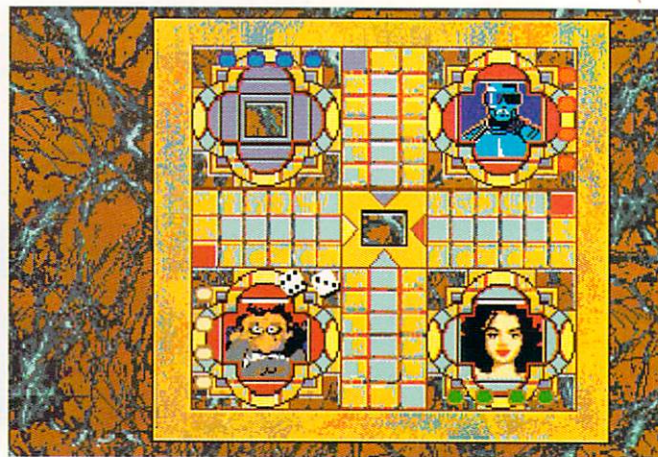
All in all, JMF is one of the best football simulations around. Plenty of action, strategy, and good ol' fashioned American football. With the football season just starting, why not move your armchair in front of the Amiga, and lead your favorite team to the Super Bowl with John Madden Football.

Hoyles Book of Games Vol. III

by Jeff James

If you've been anxiously waiting for a computer version of such venerable board games as checkers, backgammon, and dominoes, wait no longer. Sierra has come to the rescue with the release of *Hoyles Book of Games Vol. III* (Hoyle3), a compilation of six popular board games. Whereas Sierra's earlier Hoyle releases (Vols. I and II) emphasized card games, Hoyle3 serves up a colorful mixture of board-gaming classics: checkers, backgammon, dominoes, yacht, pachisi, and snakes & ladders.

Games can be played against both human and computer opponents, with some games allowing up to four players to play simultaneously. For computer opponents, the player can match wits against famous characters from Sierra's popular adventure games. Some of the opponents included are Roger Wilco (Space Quest),



King Graham (King's Quest), and my personal favorite, Passionate Patty (Leisure Suit Larry). During play, these computer-controlled adversaries will voice in-character remarks about your playing ability, their own playing ability, and any other item they find worthy of their comments.

Most of the games are analogous to their non-computerized counterparts. The pachisi, backgammon, dominoes and yacht games are essentially unchanged from the originals. The snakes and ladders game is a variation on the popular children's game Chutes and Ladders. Of all the games, checkers was my favorite. In this version, an animated playing option replaces the checkered game board by a pond covered with green lily pads. The usual playing pieces are replaced by a batch of boisterous frogs, which animate and jump over one another when moved. A cross between *Battle Chess* and classic checkers, the animated frog option is a treat to play. However, in the area of graphics, Hoyle3 is a little disappointing. Converted from the 256-color MS-DOS version, Hoyle3 suffers somewhat from grainy game screens and a muddy color palette.

Hoyle3 ships on two unprotected diskettes and is fully hard drive-installable. A warranty card and a pair of game manuals round out the package contents, although most players can skip the documentation and dive right into playing the game. Gamers tired of thumbing through game manuals

in search of words to feed a copy-protection scheme will be delighted to hear that Hoyle3 lacks any form of copy protection. Hoyle3 requires 1MB of RAM, Kickstart 1.2 or greater, and either a pair of floppy disk drives or a hard disk.

Hoyle3 seemed to operate fine on every Amiga I had the opportunity to test it on, including an A3000 running AmigaDOS 2.0. However, I did run into a problem which occurred every time I booted the game—slow operating speed. Even on an A3000, Hoyle3 seems to run at one of only two speeds: slow and slower. Even playing the simplest game available—checkers—was an exercise in slothful futility. Simply waiting for a requester to be drawn on the screen and filled with text would often take several seconds, regardless of how much memory was available or the speed of the processor. A spokesman at Sierra informed me that a patch disk is available which fixes most of the speed problems, especially on an A3000 running AmigaDOS 2.0.

Aside from the speed problems and muddy-colored graphics, Hoyle3 does have a lot to offer an Amiga gamer. The music and sound effects are well done, and most of the games are very playable. The ability to play against characters from other Sierra products is a nice touch, giving the game a good deal of replayability. It might not be perfect, but Hoyle3 is a fine choice for sitting down with a cold glass of lemonade and whiling away those hot summer days.

Aquaventura

by C.D. Fyre

In this basic shoot-em-up, you take the role of Josh Aldrin, AquaCraft pilot. Your mission is to avenge the annihilation of mankind by destroying aliens which have taken over the earth.

Your objective is to destroy solar panels which protect an alien pyramid, then attack the pyramid and destroy its guardian to gain access to an AquaTunnel. You then maneuver down the tunnel, fighting off more alien craft, to a weapons depot at the end. Here, you re-arm and re-fuel for the next level.

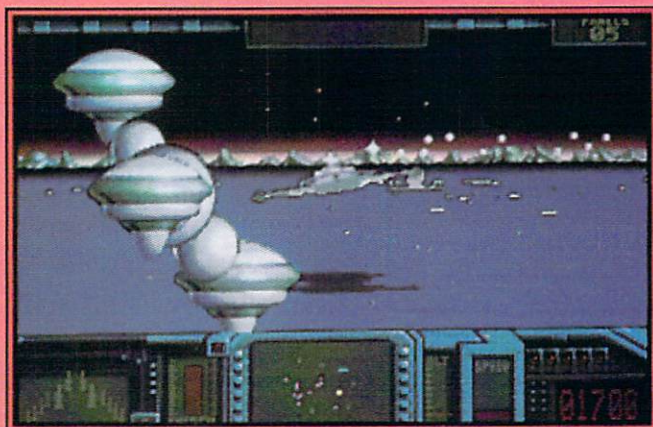
On each level you encounter alien ships and ship generators. You destroy these craft to collect points. While fighting off the alien craft, you must search for and destroy the solar panels that provide energy for the force field surrounding the alien pyramid. Once the solar panels have been destroyed, you may then eliminate the force field generators and engage the guardian of the pyramid.

Although it's nearly impossible to aim your plasma weapons, it is fairly easy to destroy alien craft, the generators, and the solar panels as they usually only require one hit. The force field generators are more difficult. The hardest creature to eliminate is the pyramid guardian, which requires several hits to destroy each cell in its body before it dies.

I found it hard to maneuver in the game. You can make the AquaCraft go up, down, left, and

right—but not easily. It's difficult to chase objects; most of the time you have to wait for them to come at you. It's also hard to center on your targets. You'll find yourself flying past most targets without hitting them.

The primary targets of the first level, the solar panels, are hard to find. You have a radar screen which shows you what is coming and where it is. The problem is getting to the target. Often, by the time you reach the solar panel, you don't have enough fuel to go on to destroy the pyramid.



Assuming you have successfully destroyed the solar panel on the first attempt, you travel on to the pyramid, which can also be difficult to find, and attempt to destroy it. It will take you two or three—if not more—passes before the force field generators are destroyed. When the generators are gone, the pyramid sinks to reveal the guardian. Two things to keep in mind at this point: 1) Fuel is precious, 2) The guardian is going

to be a tough kill. You should try to save your missiles for the guardian. The best way to handle this creature is to stay right in front of it and hit it with a missile. You will not destroy it entirely with the missile shot, but the creature will soften up considerably.

The number of alien ships and solar panels increase with each level as do the number of hits required to destroy the force field generators and tunnel creature.

As for playability, you must have patience with this game. It is not a fast action game. You can't

perform tight turns or rolls with the AquaCraft, and it's difficult to see just how far above the water you really are. Though you never seem to run out of plasma shots, their range and accuracy leave a lot to be desired. Oftentimes, you will find yourself flying around aimlessly, shooting like crazy and not hitting a thing. You often run out of energy before you reach a solar panel. I was not very much impressed with the game. It was fun the first few times but quickly became boring. Some of the graphics are nice and the sound is unique, but the play is dull.

•AC•



Snakes and Ladders is a variation of Chutes and Ladders.

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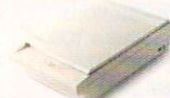
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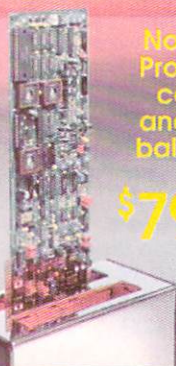
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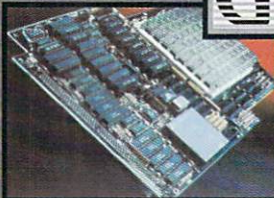
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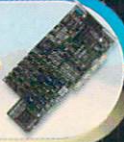


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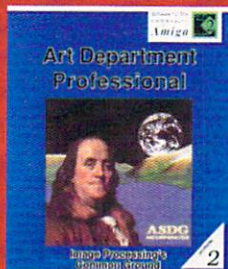
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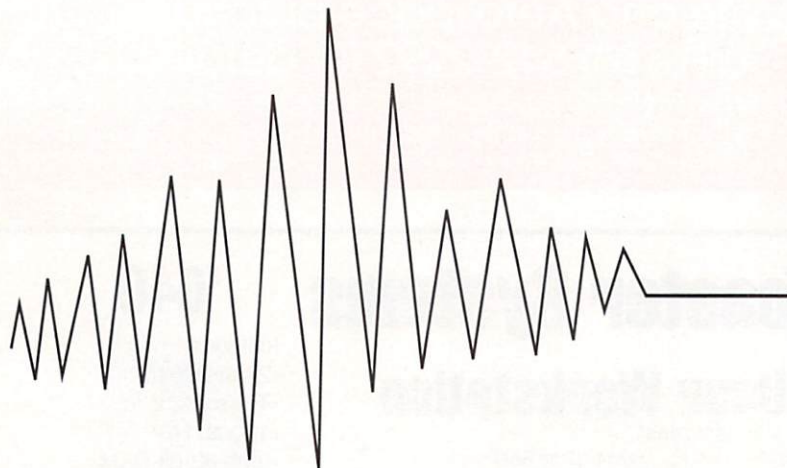
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Feedback

Interplay Finds Solution to *Castles* Problem

We are currently aware of a situation that can occur with our *Castles* game on the Amiga 3000 machines. At the beginning of the battle sequence the speed of the game can drop excessively and lock up in certain situations. Our testing has found that if the ADBuffers are increased to 30 for the device the game is being run from, this will eliminate the problem. In response to Mr. Carr [AC, 7.8, "Feedback," p. 91], he was informed that we would call him when we had an answer to his problem. Unfortunately, it took us nearly two weeks to track down the problem. After we knew how to correct it, we then responded to Mr. Carr. By that time he had already sent you his letter. We apologize for any inconvenience this may have caused him or anyone else.

Kerry Garrison
Technical Support
Interplay
Santa Ana, CA

We thank Interplay for responding both to Bill Carr and to us at AC. Unfortunately, again, the response was too late for inclusion in the AC 7.8 issue, where Bill's letter was published.—Editor

AmigaDOS 2.04—The High Cost of Progress?

Let me open by saying that this letter is not a complaint about AmigaDOS 2.04 nor the cost of progress. Rather it's an attempt to share my experience in trying to upgrade my Amiga 2000 from 1.3 to 2.04. The path to this end isn't as smooth as some magazine articles led me to believe, or perhaps it was my enthusiasm for the venture that impaired my vision. In any

event, if you're considering the upgrade to AmigaDOS 2.04, my experience might help guide you to a smoother upgrade path.

As an avid Amiga user, I recently purchased the 2.04 upgrade package for my Amiga 2000. Here is what I found in my software library that works, and more importantly, what doesn't work.

Does Not Run Under AmigaDOS 2.04

| | |
|-----------------|------|
| Animagic | 1.0 |
| AudioMaster | 1.0 |
| AProDRAW | 2.4 |
| Bars&Pipes | 1.0f |
| DMCS | 1.0 |
| Deluxe Photolab | 1.0 |
| DeluxeVideo III | 1.06 |
| Digi-Paint 3 | 1.0 |
| DiskMaster | 1.3 |
| Future Sound | 1.0 |
| IconMaster | 2.0 |
| Modeler 3D | 1.0 |
| Turbo Silver | 3.0 |
| Sonix | 2.0 |
| Videoscape 3D | 2.0 |

Bridgeboard

| | |
|---------------|--------|
| PCWindow | 2.0g1 |
| Janus.library | 33.1B5 |

Hard Drive

| | |
|-----------|---------------|
| Trumpcard | 2.2, rel 1.3G |
|-----------|---------------|

Appears to Run Under AmigaDOS 2.04

| | |
|------------------|------|
| Animation Studio | 1.0 |
| A Sound Elite | 1.1 |
| B.A.D. | 4.12 |
| DeluxePaint IV | 4.0 |
| FrameGrabber | 1.03 |
| MovieSetter | 1.0 |
| Pro/Motion | 1.0a |

The programs I've listed as not running under AmigaDOS 2.04 either freeze the computer, show the guru, respond with system messages about the serial device, or otherwise react in some non-functional way. Yes, the guru is alive and well in AmigaDOS 2.04. One thing I must now consider is whether to upgrade my "old favorites," presuming, of course, that upgrades are available. Has anyone ever heard of upgrades for AProDRAW, DMCS, or Videoscape 3D? I know—good luck, buddy!

The features and operations I did see with AmigaDOS 2.04 while booting from the floppy were impressive. There is much to like about it, although, as a minor complaint, I wish the icons didn't have boxes around them. I find the icons in AmigaDOS 1.3 much more appealing. CBM changed a significant item in the 2.04 release that I haven't seen documented anywhere: WorkBench color registers. CBM swapped the *white* and *black* registers for the WorkBench screen colors in 2.04.

In order to grasp the depth of this one small change and to see how this will affect your favorite screens and icons, open the WorkBench Preferences screen. You don't need 2.04 to do this; you'll see the effect with 1.2 or 1.3. Using the RGB sliders for adjusting screen colors, swap the white and black color registers—the middle two colors. Then click USE. Now take a look at your icons. That's what they will look like under 2.04—a rather ghostly appearance if you draw cartoon characters with black outlines as I do.

It's going to be much more work to upgrade to AmigaDOS 2.04 than I ever had imagined. If I could casually say "goodbye" to most of my previous work, the transition

would be simple. I also realize that the difficulties which I have encountered offer new opportunities for bright program developers. I eagerly look forward to your solutions.

Gregg Scholfied
Dayton, NV

It's a fact of life that OS upgrades are rendering our existing software collection obsolete. If anyone else has a list of orphaned software, or a modification to this one, please write to "Feedback."—Editor

Good News for Owners of Janus V1.0

In his article "MREAD" (AC V7.6), Chuck Wardin states, "Boy, wouldn't a file like this come in handy on the MS-DOS side about now?" He was referring to the AmigaDOS "List" command using the LFORMAT option. In the introduction to the article, he comments, "With Janus Library Version 2.0 AWRITE was improved to support wildcards...", a nice feature for those who have it but bad for us who still have to use V 1.0. But there is good news for us oldtimers also.

It is the MS-DOS (V 3.x) "FOR...IN...DO" command that allows the AWRITE command to copy ALL or SOME of the files—depending upon the wildcard used—on the PC-side Directory over to the Amiga side.

While the command is powerful/complex, the simple "Batch" file below (!COPY2AM.BAT) allows me to copy ALL the files in my PC's "C:\AMY-PC\HOLD" Directory over to my Amiga's "RAM:" Device by just entering "!COOPY2AM" on the PC's Command Line. The only work I have to do is get everything into the "HOLD" Subdirectory before I enter "!ICOPY2AM".

NOTES

1. The "CD C:\AMY-PC\HOLD" sets the current directory. It must be used or things won't work right. Change as required.
2. The "%X" provides the name of each file in the current directory. It could be "%Z", but this works.
3. The "(*)" says get everything in the current directory. It could be limited to "(*.doc)", but why bother?
4. The AWRITE is the DOS command to 'Run' as many times as required. It must be in your PC's PATH.
5. The RAM: is the Amiga Device/Directory where the files will be copied. It could be DF0: or a directory name.

6. The "/B" is the 'Binary-File' Switch that is used by AWRITE. Dangerous to change!
7. The "CD C:\AMY-PC" re-sets the current directory.

```
: !COPY2AM.BAT
:
ECHO ON
CD C:\AMY-PC\HOLD
FOR %X IN (*) DO AWRITE %X
RAM: %X /B
ECHO OFF
CD C:\AMY-PC
```

Bert L. Allen
Sacramento, CA



| | |
|--|----------|
| Bigfoot 200 Watt A-500 Power Supply | \$129.95 |
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| Slingshot A-2000 Slot For The A-500/1000 | \$ 39.95 |
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Fall River, MA 02722-2140

•AC•

Listing 9

```

/*
** NAME: INDEXgetdefaultpath.rexx
** SEQUENCE: None. Function called by other pgms.
** FUNCTION: ARexx program. (External function).
** Sets up default path for INDEX#? pgm set.
**
** INPUT: ENVARC:indexdefault.path file (IF exists).
** or (IF not exists),
** Creates ENVARC:indexdefault.path file.
**
** OUTPUT: RETURN pathstring where pathstring is the
** path to the user specified default path for
** INDEX working directory.
**
** NOTES: This external ARexx function looks for the
** above ENVARC:indexdefault.path file and obtains the user
** specified path for the working directory of the chap.page
** and p#. and ChPg and INDEX.ascii files used in creating
** an index with the ARexx INDEX#? series of pgms. If this
** ENVARC: file does not exist the function prompts for the
** user to supply the currently desired path for the INDEX
** files. This makes it easy to re-specify a path for each
** major document in your work load, without resorting to
** changing the program code! The computer stores ENVARC:
** files until they are changed.
** (c) 1992 by Merrill Callaway
**/

OPTIONS RESULTS

PARSE ARG inquire
start:
IF OPEN('pathname','ENVARC:indexdefault.path','R') THEN DO
  pathstring=READLN('pathname')
  SAY 'The Default Path is 'pathstring' [Rtn]=Keep E=Edit'
  PULL keep
  IF keep=' ' THEN DO
    CALL CLOSE('pathname')
    CALL OPEN('edit','ENVARC:indexdefault.path','W')
    SAY 'Enter New default path. Old default path:'
    SAY pathstring
    PARSE PULL pathstring
    IF RIGHT(pathstring,1)!='/' THEN pathstring=pathstring|| '/'
    SAY 'New path: 'pathstring 'OK? Y/N'
    PULL ok
    IF ok='Y' THEN DO
      CALL CLOSE('edit')
      SIGNAL start
    END
    CALL WRITELN('edit',pathstring)
  END
ELSE CALL CLOSE('pathname')
EXIT pathstring
END

ELSE DO
  SAY 'Default path does not exist. Create one? Y/N'
  PULL response
  IF LEFT(response,1)='Y' THEN DO
    CALL OPEN('pathname','ENVARC:indexdefault.path','W')
    SAY 'Enter pathname of directory for your INDEX files.'
    PARSE PULL pathstring
    IF RIGHT(pathstring,1)!='/' THEN pathstring=pathstring|| '/'
    CALL WRITECH('pathname',pathstring)
    CALL CLOSE('pathname')
    EXIT pathstring
  END
ELSE EXIT 5

```

Listing 10

```

** NAME: IDXuniword.ttx
** SEQUENCE: None. Utility/auxiliary
** FUNCTION: TurboText Macro
** Key assignment: none
** Gets a list of all unique words
** from any TurboText document.
** INPUT: Current TTX document.
** OUTPUT: RAM:wordlist
**
** NOTES: Extracts and sorts a list of unique
** words from any TurboText document. After
** the program runs it asks for a page number.
** Input a blank ' ' if you do not want a page
** number attached. A simple [Rtn] will attach
** the word RESULT at the end of every word!

```

```

** This pgm is a utility for small documents or
** clips from a document page file or as a means
** to extract ALL unique words (as in a program
** listing.
** (c) 1992 by Merrill Callaway
**/

```

OPTIONS RESULTS

```

/* use to find end of file of doc */
SIGNAL ON ERROR

```

```

MOVESOF
ICONIFYWINDOW

```

```

/* extract word list */

```

```

LISTED.=0
n=1
DO FOREVER
  GETWORD
  word=RESULT
  /*word=UPPER(word)*/
  IF LISTED.word | ~DATATYPE(word,mixed) THEN DO
    MOVENEXTWORD /* we get error if at end of document */
    ITERATE
  END
  LISTED.word=1
  list.n=word
  n=n+1
  MOVENEXTWORD /* we get error if at end of document */
END

```

```

ERROR: /* error generated when we hit the end of document */

```

```

/* The Shell Sort */

```

```

listlength = n-1
span = 1
DO WHILE (span < listlength); span = span * 2; END
DO WHILE (span > 1)
  span = span % 2
  numpairs = listlength - span
  DO node = 1 TO numpairs
    nextnode = node + span
    IF list.node > list.nextnode THEN
      DO
        store = list.nextnode
        list.nextnode = list.node
        DO bubpos = node-span TO 1 BY -span WHILE (store <
list.bubpos)
          nextnode = bubpos + span
          list.nextnode = list.bubpos
        END bubpos
        bubpos = bubpos + span
        list.bubpos = store
      END
    END node
  END

```

```

END

```

```

/* the end of the shell sort of the words */

```

```

/* output to a new document window */
j=listlength
'OPENDOC NAME RAM:wordlist'
newdoc=RESULT
ADDRESS VALUE newdoc
MOVESOF
'REQUESTSTR PROMPT "Enter page number."'
p=RESULT
DO i=1 TO j
  'INSERT TEXT' list.i p
  INSERTLINE
END
EXIT 0

```

•AC•

The listings for the programs presented here are available from the author for \$15 (postpaid). Send your requests to the address listed below.

Please Write to:
Merrill Callaway
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

AMAZING COMPUTING

Vol. 6, No. 6, June 1991

Highlights include:

"MaxiPlan Plus," a review by Chuck Raudonis
 "CDTV," a comprehensive look at Commodore's hottest item
 "HAM-E," a review introducing an excellent 24-bit color video board, by David Johnson
 "Pixel 3D," review by John Steiner
 "Professional Page 2.0," a review of a complete and truly professional desktop publishing package by Rick Broida

Vol. 6 No. 7, July 1991

Highlights include:

"Firecracker 24," a review of the latest in 24-bit video boards from Impulse by Frank McMahon
 "Proper Grammar," a review of a comprehensive spelling and grammar checker by Paul Larrivée
 "PageStream," another entry in the word processing/desktop publishing software line, by John Steiner
 Also, extensive Summer CES coverage!

Vol. 6 No. 8, August, 1991

Highlights include:

"AlterImage," create titling and special effects for your home videos in minutes, by Frank McMahon
 "The Jerry Bryant Show," AC interviews Jerry Bryant, whose secret weapons for producing four hours of television a week are the Amiga and the Video Toaster
 "Understanding Genlocks," by Matt Drabick
 "Super 8 Meets the Amiga," easy film-to-video transfer with the addition of Amiga graphics, by Patrik Beck
 "Looking Good with B.A.D.," a review of Centaur Software's disk optimizing program by Rick Manasa
 Also, AC continues the extensive coverage of the Summer CES in Chicago!

Vol. 6 No. 9, September 1991

Highlights include:

"Bars&Pipes Professional," a review by Phil Saunders
 "Frame Buffer Face-Off," an overview of framebuffer, by Frank McMahon
 "DynaCADD," a review by Doug Bullard
 Plus:
 Special reports on Multimedia applications
 AND
 Super show coverage from Australia and Orlando!

Vol. 6 No. 10, October 1991

Highlights include:

"Art Department Professional," a review of ASDG's powerful program by Merrill Callaway
 "ShowMaker," beyond desktop video, by Frank McMahon
 "APL and the Amiga," by Henry Lippert
 Plus:
 An ARexx double feature and a special education section

Vol. 6 No. 11, November 1991

Highlights include:

"Connecting Your Amiga to the Sharp Wizard," by Merrill Callaway
 "Epson 300c Flat Bed Scanner," review by Merrill Callaway
 "Impact Vision 24," a sneak preview of GVP's powerful 24-bit board, by Frank McMahon
 "CSA Mega-Midget Racer," a review of CSA's powerful accelerator board, by Mike Corbett
 "Why Should You Use the CLI?" three sound reasons to use the command line interface, by Keith Cameron
 Vol. 6, No. 12 December, 1991

Highlights include:

"Audition 4," a review of a great sound sampler package by Bill frazier
 "Draw 4D Pro," a look at ADPSEC's latest update to Draw 4D, by R. Shammis Mortier
 "Newsletter Basics," a tutorial on how to create professional newsletters using PageStream, by Pat Kaszycki
 "AmigaDOS for the Beginner," another look at the basics of AmigaDOS, by Keith Cameron
 ALSO: Coverage of AmiEXPO Oakland and the Kolin, Germany, show!

Vol. 7, No. 1 January, 1992

Highlights include:

"Memories," A500 memory expansion, by Sam Ammons
 "Help for the Help Key," by Rick Manasa
 "Getting the most from your RAMdisk," by Keith Cameron
 "Installing and Using an IBM mouse with Your Amiga," by Phillip R. Combs
 "DePuzzle," a puzzle-solving program for brain teasers, by Scott Palmateer
 "ZipTerm," learn how to use Console.device and Serial.device while creating a telecommunications program, by Doug Thain
 ALSO: Coverage of Germany's Amiga '91 and London's World of Commodore shows.

Vol. 7, No. 2 February, 1992

Highlights include:

"Deduct That Interest with FC CALC," by Rick Manasa
 "Finding the Right Multimedia Fit," by Dave Spitler
 "Images in Dentistry," by Ken Larson
 "Signmaking on the Amiga," by Karen Pringle
 "Perfect Pages," how to produce PostScript-quality pages without buying a PostScript laser printer.
 ALSO: Coverage of Toronto's World of Commodore Show

Vol. 7, No. 3 March, 1992

Highlights include:

"The Miracle Piano Teaching System," by Christopher Piper
 "DeluxePaint IV," by R. Shammis Mortier
 "Semi-Automatic Painting and Animation," by Kevin Lude
 "Screen Photography," taking pictures of your Amiga screen, by Pat Murphy
 Also, a special section on Amiga Graphic Design and a look at some special Amiga Artists.

Vol. 7 No. 4 April, 1992

Highlight include:

"Foundation," a review by Dave Spitler
 "AdPro 2.0," review by Merrill Callaway
 "ATonce Plus," review by Rich Mataka
 Also, construct a database using your favorite authoring system, customize your start-up sequence, and create and produce your own video!

Vol. 7 No. 5 May, 1992

Highlights include:

"Pelican Press", a review of this entry-level DTP package by Jeff James
 "AdIDE/40 Amiga 500 Hard Drive Kit", review by Merrill Callaway
 "Building an Amiga MIDI Interface", super project by John Iovine
 Also: AC's annual Desktop Publishing Overview! This issue includes a look at the top DTP packages as well as a study of printers, fonts, and clip art available for the Amiga.

Vol. 7 No. 6 June 1992

Highlights include:

"Freeze Frame Video Recorder", review by Merrill Callaway
 "HP DeskJet Color 500C", review by Richard Mataka
 "MREAD", a programming project by Chuck Wardin
 Plus: Don't miss an exciting edition of our ARexx feature by Merrill Callaway or 3-D animation with DPaint IV in "The Video Slot", by Frank McMahon.

Vol. 7 No. 7 July 1992

Highlights include:

"Modem Rundown", A comprehensive look at modems for the Amiga
 "G-Force 040", a review of GVP's 040 accelerator, by Rich Mataka
 "SuperJam", a review of this superb music maker from The Blue Ribbon Soundworks, by John Steiner
 "FounDex", a tutorial using Foundation's stacks and scripts, by Dave Spitler
 Plus, a look at telecommunications and the Amiga including hardware, software, and services.

Vol. 7 No. 8 August, 1992

Highlights include:

"Digi-View 4.0", by Matt Drabick
 "GVP's Digital Sound Studio", review by Matt Drabick
 "3D Effects from 2D Amiga Art", tutorial by Shammis Mortier
 Plus:
 Super ARexx Column for July!
 Video Toaster UpDate featured in The Video Slot!
 And Much More!

AC's TECH

AC's TECH, Vol. 1, No. 2

Highlights include:

"CAD Application Design: Part I," by Forest W. Arnold
 "Programming the Amiga's GUI in C: Part I," by Paul Castonguay
 "Intuition and Graphics in ARexx Scripts," by Jeff Glant
 "UNIX and the Amiga," by Mike Hubbard
 "A Meg and a Half on a Budget," by Bob Blick
 _and more!

AC's TECH, Vol. 1, No. 3

Highlights include:

"CAD Applications Design—Part II," by Forest Arnold
 "C Macros for ARexx?" by David Blackwell
 "VBROM: Assembly Language Monitor" by Dan Babcock
 "Programming the Amiga's GUI in C—Part II" by Paul Castonguay
 —and more!

AC's TECH, Vol. 1, No. 4

Highlights include:

"GPIO—Low-Cost Sequence Control" by Ken Hall
 "Programming with the ARexxDB Records Manager" by Benton Jackson
 "The Development of a Ray Tracer—Part I" by Bruno Costa
 "The Varafire Solution—Build Your Own Variable Rapid-Fire Joystick" by Lee Brewer
 "Using Interrupts for Animating Pointers" by Jeff Lavin
 —and more!

AC's TECH, Vol. 2, No. 1

Highlights include:

"Build Your Own SCSI Interface" by Paul Harker
 "CAD Application Design—Part III" by Forest Arnold
 "Implementing an ARexx Interface in Your C Program" by David Blackwell
 "The Amiga and the MIDI Hardware Specification" by James Cook
 —and more!

AC's TECH, Vol. 2, No. 2

Highlights include:

"Programming the Amiga in Assembly Language Part 2", by Forest Arnold
 "Implementing an ARexx Interface in Your C Program, Part 2", by David Blackwell
 "Iterated functions Systems for Amiga Computer Graphics", by Laura Morrisson
 "MenuScript", creating professional looking menus easily and quickly, by David Ossorio
 And Much More!

Back Issue Index

What have you been missing? Have you missed information on how to add ports to your Amiga for under \$70, how to work around *DeluxePaint's* lack of HAM support, how to deal with service bureaus, or how to put your Super 8 films on video tape, along with Amiga graphics? Do you know the differences among the big three DTP programs for the Amiga? Does the ARexx interface still puzzle you? Do you know when it's better to you use the CLI? Would you like to know how to go about publishing a newsletter? Do you take full advantage of your RAMdisk? Have you yet to install an IBM mouse to work with your bridgeboard? Do you know there's an alternative to high-cost word processors? Do you still struggle through your directories?

Or if you're a programmer or technical type, do you understand how to add 512K RAM to your 1MB A500 for a cost of only \$30? Or how to program the Amiga's GUI in C? Would you like the instructions for building your own variable rapid-fire joystick or a 246-grayscale SCSI interface for your Amiga? Do you use easy routines for performing floppy access without the aid of the operating system? How much do you really understand about ray tracing? The answers to these questions and others can be found in *AMAZING COMPUTING* and *AC's TECH*.

For more
 information call
 1-800-345-3360

The Fred Fish Collection

Below is a listing of the latest additions to the Fred Fish Collection. This extended library of freely redistributable software is the work of Amiga pioneer and award-winning software anthologist, Fred Fish. For a complete list of all AC, AMIGUS, and Fred Fish Disks, cataloged and cross-referenced for your convenience, please consult the current AC's Guide To The Commodore Amiga available at your local Amazing Dealer.

Fred Fish Disk 668

Exploding An AmigaDOS 2.0 version of "exploding windows" that explodes and implodes windows in a fancy manner, catches all window resize and move events, works with all OpenWindowsTags, and installs as a commodity. Version 1.0, binary only. Author: Andreas Schildbach

Textra

This easy-to-use text editor allows multiple windows, and provides a simple mouse driven interface. Those familiar with the "Macintosh style" editors will be comfortable with Textra's Cut, Copy and Paste commands. Documentation included. Version 1.12, an update to version 1.0 on disk 239, with many enhancements. Shareware, binary only. Author: Mike Haas

Vit

VT is both a VT100 emulator and a Tektronix 4014 plus subset of 4105 emulator, currently in use at SLAC (Stanford Linear Accelerator Center). Although the VT100 port was originally based on Dave Wecker et al.'s VT100, many enhancements were made. Features include use of ARP, an ARexx port, XMODEM 1K/CRC and Kermit protocols, support for additional serial ports, external file transfer protocols (XPR), a "chat" mode, and scrollbar/review/history buffer. It comes in two versions, one with Tektronix emulation, and one without. The Tektronix emulation allows saving IFF files, PostScript files, and printing bitmaps to the printer. This is version 5.517, an update to version 5.045 on disk 468. Binary only. Author: Willy Langeveld

Fred Fish Disk 669

Leggi A powerful ISO/ANSI text reader which strictly follows Commodore's application guidelines. Features include unlimited number of windows on any public screen, scrolling with both mouse and keys, full AUISO menus and ARexx commands, clipboard support, AppWindows, fast and residentable activator, full configurability of the keyboard, preferences file and editor to change preferences, background mode, and more. Version 2.0, binary only. Author: Sebastiano Vigna

Post

An excellent PostScript interpreter for the Amiga which implements the full Adobe language. Supports type 1 and type 3 fonts, screen output, file output, and printer output. Requires Arp library V3.0+ and ConMan V1.3+ (only under AmigaDOS 1.3). This is version 1.7, an update to version 1.6 on disk 518. Includes source in C. Author: Adrian Aylward

SCSIUtil

A CLI utility to issue commands to a SCSI disk using a special SCSI id number. Commands include inquiry, seek, start/stop motor, read sector(s), read capacity, etc. Freeware, includes source. Author: Gary Duncan

VirusChecker

A virus checker that can check memory, disk bootblocks, and all disk files for signs of most known viruses. Can remember nonstandard bootblocks that you indicate are OK and not bother you about them again. Includes an ARexx port. Version 6.05, an update to version 5.30 on disk 556. Binary only. Author: John Veldhuis

Fred Fish Disk 670

DirWork A fast, small, efficient, DirUtility. Configurable options and buttons, as well as all the usual features. Comes with external configuration editor. This is version 1.51, an update to version 1.43 on disk 570. Shareware, binary only. Author: Chris Hames

Mostra

Mostra is a shareware IFF utility featuring real-time unpacking scroll, dozens of options, "smart" analysis of any IFF file (FORMs, LISTs, also nested ILMB), total control over display modes, simple slideshow processing, pattern matching, SHAM, an external link to show Dynamic Mode pictures, double buffering, fast decompression, color cycling, TeXdocs, startup files for easy custom configuration, and complete WB support, through ToolTypes and Style icons! This is version 1.06, an update to version 1.04 on disk 476. Binary only. Author: Sebastiano Vigna

Scan

Program to scan file contents for matches to one or more specified patterns. Claimed to search hard drives twice as fast as the best search programs currently available, and ram drives five times faster than other programs. Can optionally scan the contents of files in LZH and LHA archives. Supports searching for multiple patterns simultaneously. Other features include extensive wildcard support, optional inverted pattern matching, recursive directory scanning, line search highlights of matching words with selectable color, and more. This is version 1.0. Includes source. Author: Walter Rothe

Fred Fish Disk 671

div2tty A program to convert TeX's dvi output files to ASCII format for printing or previewing on text terminals. Version 4.0, includes source. Author: Svante Lindahl, Marcel Mol, et al. Amiga port by Martin Hohl

JcGraph

Demo version of a ShareWare Business grapher with Intuition interface. JcGraph can show your data as bar, line, planes, stack, blocks, 2D and 3D, etc. Features realtime rotation around X, Y, Z axis, on-line help, professional looking 2D and 3D graph output, and more. Can output EPS, 3D GEO, AegisDraw2000 and IFF ILMB format files. Demo version 0.903. Binary only. Author: Jean-Christophe Clément

mkmake

A make file generator, originally written for Turbo-C and MS-DOS, and now ported to the Amiga by the author. Version 0.3, includes source. Author: Martin Hohl

MPE

A compiler tool for users of the M2Amiga programming environment. MPE does the same job better than your batch file. You can do everything with the mouse or the right amiga key. With this Modula-2 Programming Environment you can compile, link, and run your program. When there is an error, the editor is started automatically. You can set all switches for M2C, M2L and M2Make. Version 1.0, binary only. Author: Marcel Timmermans

tr2tex

Converts documents in UNIX troff format to LaTeX format. It is intended to do the first pass of the conversion, with the user finishing up the rest of the conversion. Most of the converted document will be in LaTeX format, but some of it may be in plain TeX. Amiga version 1.02, includes source. Author: Kamal Al-Yahya; Amiga port by Martin Hohl

Fred Fish Disk 672

Indent A C source code formatter/indenter. Especially useful for cleaning up inconsistently indented code. Version 1.3, an update to version 1.1 on disk 262. Includes source. Author: Various. Amiga port by Carsten Steger

SKah

A ksh like shell for the Amiga. Some of its features include command substitution, shell functions, aliases, local variables, emacs and vi style command line editing, I/O redirection, pipes, UNIX style wildcards, a large variety of commands, and coexistence with scripts from other shells. Well documented. Version 2.0, an update to version 1.7 on disk 489. New features include real pipes. AmigaDOS 2.04 support, enhanced ARexx handling, and more. Binary only. Requires AmigaDOS 2.04. Author: Steve Koren

Fred Fish Disk 673

KCommodity Multifunctional commodity for OS 2.0. Includes window-activator, time-display in several modes and formats, alarm function, keyStroke-Clocker, time to environment, Window/Screen cycling, LeftMouse, ESC-Key can close Windows, Revision Control System, telephone bill calculator, Screen-Mouse-Blanker, Mapping of german "Umlauts", PopUp Shell, Applcon support, LeftMouse, user definable HotKeys. Fully controllable via ARexx-Port. All settings can be customized and saved to disk. This is version 1.75, an update to version 1.70 on disk 646, with many new features. Requires OS 2.0. Written in assembly for speed and efficiency. Includes source. Author: Kai Iske

Offender

Demo version of a fast shoot'em up game based on Williams' Defender game. Runs at 50/60 frames per second. Includes PAL and NTSC versions. Kickstart 2.04 compatible. Requires 68020 CPU and 68881 FPU or better. Version 1.02, an update to version 1.01 on disk 631. Shareware, binary only. Full version and/or source code available with shareware payment. Author: Fred Bayer

SANA

The official Commodore developer information package for the SANA-II Network Device Drivers. Includes the SANA-II spec, readme files, SANA-II drivers for Commodore's A2065 (Ethernet) and A2060 (ARCNET) boards, docs and includes. More complete package than just the specification included on disk 654. Author: Commodore-Amiga Networking Group

ShellTools

Four small useful programs. PIPE provides command line pipes. HISTORY allows the history to be loaded, saved, and listed. FOREACH is a fancy loop and variable expansion command, and REORDER saves all console input and output in a file. Binary only. Author: Andy Finkel

Fred Fish Disk 674

Hextract A complete header file reference. Definitions, structures, structure members and offsets, flag values, library contents, function definitions, registers, library offsets, etc. The data from a set of V1.3 Amiga and Latte header files is packed into the included file "headers.z" for immediate reference by Hextract. Version V1.1, freeware. Includes part source. Author: Chas A. Wyndham

IFFLib

An easy to use Amiga library which gives you some powerful routines for dealing with IFF files, especially ILMB files (pictures), ANIM files (animations), and 8SVX files (digital sounds). It is written completely in assembler and is just 3Kb. Includes source and binaries for several example programs that use the library. This is version 22.2, an update to version 16.1 on disk 301. Binary only. Author: Christian A. Weber

NewIFF

This is version 37.9 of new IFF code modules and examples for use with the Release 2 Iffparse library. This code release is again 1.3 compatible (the 37.8 release was not). This code is intended to replace the 1985 EA IFF code modules, providing significant enhancements including support for arbitrary ds- play modes and overscan (2.0), clipboard load/save, centralized string handling (for ease of localization), and simplified subroutines for displaying, saving, and printing ILMBs. And the 8SVX reader now plays! Author: Submitted by Carolyn Schepner

P-Writer

A text editor with special facilities for inserting text color and style changes and for preparing illustrated texts for P-Reader. Version 3.3, an update to version 3.2 on disk 595. Freeware, binary only. Author: Chas A. Wyndham

Fred Fish Disk 675

F2C A program that translates Fortran 77 source into C or C++ source. F2C lets one portably mix C and Fortran, and makes a large body of well tested Fortran source code available to C environments. Amiga port done for SAS/C 5.10B, and includes libraries for use with SAS/C. Includes full source in C. Author: S. I. Feldman, David M. Gay, Mark W. Maimone, N. L. Schryer; Amiga port by Martin Hohl

Fred Fish Disk 676

FBM An Amiga port of the Fuzzy PixMap image manipulation library. This package allows manipulation and conversion of a variety of color and B&W image formats. Supported formats include Sun rasterfiles, GIF, IFF, PCX, PBM bitmaps, "face" files, and FBM files. Also has input converters for raw images, like Digi-View files, and output converters for PostScript and Diablo graphics. Besides doing format conversion, some of the other image manipulation operations supported include rectangular extraction, density and contrast changes, rotation, quantization, halftone grayscaling, edge sharpening, and histograms. Disk 676 contains m68000 binaries and docs, disk 677 contains m68020/m68881 binaries, and disk 678 contains the sources. Version 1.0. Author: Michael Mauldin; Amiga port by Martin Hohl

Fred Fish Disk 677

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MakeLink

A replacement for the original AmigaDOS 2.0 MakeLink command. Supports both hard and soft links. Residentable. This is version 1.1, includes source. Author: Stefan Becker

Mostra

Mostra is a shareware IFF utility featuring real-time unpacking scroll, dozens of options, "smart" analysis of any IFF file (FORMs, LISTs, also nested ILMB), total control over display modes, simple slideshow processing, pattern matching, SHAM, an external link to show Dynamic Mode pictures, double buffering, fast decompression, color cycling, TeXdocs, startup files for easy custom configuration, and complete WB support, through ToolTypes and Style icons! This is version 1.07, an update to version 1.06 on disk 670, and fixes a bug with parsing IFF files. Binary only. Author: Sebastiano Vigna

PM

A tool that monitors the Amiga system's CPU usage using some hooks that are available in 2.04 EXEC. The program uses the high resolution ClockTime to get real time values for the amount of time the processor spends running tasks and the amount of time it spends between tasks (in task switch and in sleep). Version 37.8, binary only. Author: Michael Sinz

Fred Fish Disk 678

FBM An Amiga port of the Fuzzy PixMap image manipulation library. This package allows manipulation and conversion of a variety of color and B&W image formats. Supported formats include Sun rasterfiles, GIF, IFF, PCX, PBM bitmaps, "face" files, and FBM files. Also has input converters for raw images, like Digi-View files, and output converters for PostScript and Diablo graphics. Besides doing format conversion, some of the other image manipulation operations supported include rectangular extraction, density and contrast changes, rotation, quantization, halftone grayscaling, edge sharpening, and histograms. Disk 676 contains m68000 binaries and docs, disk 677 contains m68020/m68881 binaries, and disk 678 contains the sources. Version 1.0. Author: Michael Mauldin; Amiga port by Martin Hohl

PPLib

A shared library to make life easy for people who wish to write programs that support PowerPacker. Loading crunched files from C or assembly is made fast, short and easy. This is release 1.5, an update to version 1.4 on disk 623. Includes example source. Author: Nico Francois

ReOrg

ReOrg is a fast disk optimizer that can be used for floppy disks and hard disks. Supports new Kickstart 2.04 features including hard and soft links, and High-Density drives. Includes program versions in English and German for use with Kickstart 1.2/1.3 or Kickstart 2.04. Versions 1.1 and 2.1, shareware, binary only, first release. Author: Holger Kruse

ResAnalyzer

OS 2.04 compatible ResModules monitor. ResAnalyzer can show you all information related to Captures, KickMemPtr, KickTagPtr, KickChkSum and ResModules entries in the ExecBase structure. A great help for resident modules developers and for people who want to check if something (like a virus) is resident in memory. ResAnalyzer can detect ResModules OS 2.04 system flags. Version 2.2, binary only. Author: Silvio Umberto Zanzi

Fred Fish Disk 679

Backcoupling A simulation of screen-camera-backcoupling. Generates a series of backcoupled pictures out of a start picture. You can change several parameters, such as sharpness, rotation angle and signal translation. Includes both German and English versions. Version 1.0, binary only. Author: Michael Gentner

RayShade

Rayshade is a ray tracing program ported to the Amiga from UNIX. Rayshade's features include eleven types of primitives (blob, box, cone, cylinder, height field, plane, polygon, sphere, torus, flat- and Phong-shaded triangle); composite objects; point, directional, and extended (area) spot, and quadrilateral light sources; solid procedural texturing and bump mapping of primitives; antialiasing through variable-rate "jittered" sampling; arbitrary linear transformations on objects and texture/bump maps; Use of uniform spatial subdivision or hierarchy of bounding volumes to speed rendering; options to facilitate rendering of stereo pairs; rudimentary animation support, and more. This is version 4.0, patchlevel 5, and includes sources in C. The modifications for Amiga & SAS/C are distributed as diff files. Some example input files are also included. This is an update to version 3.0 on disk 596. Author: Craig E. Kolb, Amiga Port by Martin Hohl

Fred Fish Disk 680

ATAP Adobe Type Access Package allows users of Professional Page (Gold Disk, inc.) and compatible applications to use typefaces available from Adobe Systems or other vendors. Includes AFM and screen font converters, sample AFMs and screen fonts from the Macintosh, and a Macintosh/USA1 keymap. Includes source in C for AFM converter and font unpacker. Author: Gordon Feyck

SatTrack

A satellite tracking program. Allows for selection of a data-base that can contain up to 300 satellites. Tracks satellites on a graphics display of the world. All graphics are IFF compatible, allowing for loading of display to standard painting program. Allows for input of satellite information using either standard data format or by simple user input. All operations use standard windows and menus. SatTrack has a simulation mode that allows for predictions in the future. This is version 2.1A, demo copy, binary only. Author: Randy Stackhouse

VirusChecker

A virus checker that can check memory, disk bootblocks, and all disk files for signs of most known viruses. Can remember nonstandard bootblocks that you indicate are OK and not bother you about them again. Includes an ARexx port. Version 6.06, an update to version 6.05 on disk 669. Binary only. Author: John Veldhuis

Fred Fish Disk 681

Term A glt-ware telecommunication program written for AmigaOS release 2.x (Kickstart 37.175 and Workbench 37.67 or higher required). Features include total configurability, full ARexx control, Xpr-transfer support, filetype-identification after download, cut & paste/point-and-click on screen, auto upload and download, scrollable review panel of unlimited size, solid and fully-featured VT100/VT220/ANSI emulation, optional fast atomic terminal emulation, hotkey support, powerful phonebook and dialing functions, ability to save and print the contents of the screen as IFF-ILBM or ASCII file, full overscan and screen resolution support (new ECS screen modes included), asynchronous operation and a lot more. Comes with seven Xpr-transfer libraries (ascii, jmodem, kermi, quickb, xmodem, ymodem & zmodem) and documentation both in German and in English. This is version 2.2a, an update to version 1.9c on disk 589. Includes full source in 'C' and assembly language. Author: Olaf 'Olsen' Barthel

Fred Fish Disk 582

AmiBackDemo version of Ami-Back v2.0, a nice backup utility for the Amiga. Features include backup to any AmigaDOS compatible device (such as floppies, removable hard disks, fixed media hard disk, and tape drives), compression, no copy protection, configuration files, complete backups, incremental backups, selective backups, file exclusion filter, setting of archive bit, password protected backups, online help, AREXX support, etc. Demo version does not have restore. Version 2.0a, an update to version 1.04 on disk 517. Binary only. Author: MoonLighter Software

CyberCron A cron utility for AmigaDOS 2.0. Uses the new, more flexible, AmigaDOS 2.0 technique for running programs. Offers an extended set of options that may be specified for any given event. Version 1.3, an update to version 1.2 on disk 656. Includes source. Author: Christopher Wichura

ReqChange A little program that patches the system requests to use the similar requesters in ReqTools.library. It also patches the ARP requester and all requesters in Req.library. It is very flexible, allowing you to modify where the requester should appear, which of the libraries to patch, etc. Includes a pair of small utility programs, GetFile and ReqAsk, that can be used in scripts to put up file requesters or other requesters. Version 1.08, includes source. Author: Magnus Holmgren

ReexHostLib This is a shared library package to simplify the AREXX host creation/management procedure. Reex-message parsing is also included making it possible to control AREXX from programs such as AmigaBASIC (can imagine AmigaBASIC controlling AmigaTeX?). This is version 37.1, an update to version 36.14 on disk 403. This version has been updated for use with Kickstart 2.0. Includes source in 'C' and assembly language. Author: Olaf 'Olsen' Barthel

Zoom A fast and efficient floppy disk archiving utility based on the data compression / decompression algorithms used by InLibr. Has an intuition and a Shell interface, fully supports Kickstart 2.0, is able to add texts and notes to archived output files, knows 274 different bootblock viruses, includes a number of compression parameters (such as encryption of the output file) and a lot more. Version 5.4, update to FF459. Binary only. Author: Olaf 'Olsen' Barthel

Fred Fish Disk 583

GMC A console handler with command line editing and function key support. GMC provides extended command line editing, function key assignment in four levels, extended command line history, online help for functions in the handler, and an iconify function. Also includes an output buffer (dump to printer and window), filename completer, script function, undo function, prompt beeper, pathname in window title, close gadget for KS 2.0, etc. This is version 9.13, an update to version 9.11 on disk 587, with some new features and some bug fixes. Shareware, binary only. Author: Goetz Mueller

KFAST Key Frame Animator with Skeletal Technique. A collection of functions to implement a two dimensional object based animator designed to use the skeletal technique of modeling objects and simple tweening to free the animator from the labor of pro-drawing smooth transitions between key drawings. A crude demo program has been included utilizing the routines. Version 0.5, includes source. Author: Craig M. Lever

LE-NAG LeverEdge NAG is a program to remind you of events before you miss them. Events can be scheduled to occur once or repeat daily, weekly, monthly or yearly. You can be alerted of the event in a number of ways from a screen flash to a message requester. Version 92.05.02, shareware, binary only. Author: Craig M. Lever

PrintFiles A freely redistributable print utility to replace the standard workbench Printfiles command. Supports AREXX, application icon, and setting up a print list with unlimited number of entries. Requires OS 2.04. Includes two versions, V0.91e in English and V0.91d in German. This is an update to V0.9 on disk 632. Includes source. Author: Karlheinz Klingbeil

ShowLink Tool to list hardlinks. Also tells which file or directory the link points at. Version 1.1, includes source in Oberon. Author: Christoph Teuber

Fred Fish Disk 684

AL Archive Lister. Recognizes and lists contents of archives created by ARC, LHARC, LHA, LZ, ZOO, APE, ZIP, WARP, DMS and ZOOM. AL is fully standalone and doesn't call upon the original archivers to list contents. Binary only. Author: Oliver Wagner

CpuCir A hack in the spirit of "CpuBit". Replaces the BitClear() call in graphics.library with an 68030 optimized processor routine. Includes source in assembly. Author: Oliver Wagner

EmptyHandler Another example of a filehandler. This one creates empty files of any given length. Includes source in 'C'. Author: Oliver Wagner

MagPages A software package that allows you to create and display a disk-based magazine. The magazine produced is of a similar format to that of a traditional paper magazine. You can combine text and graphics on a single page, branch to different sections by clicking on icons and play sound and music. Features a full intuition driven interface. Version 1.30, an update to version 1.0 on disk 372, with many new features, bug fixes, and an improved user interface. Shareware, binary only. Author: Mark Gidding

PlaySound A tool to replay IFF-BSX sounds using double-buffering while the sound file is being loaded from disk. Also serves as an IFFparse.library and audio device programming example. Requires Kickstart and Workbench 2.04 (or higher). Version 1.1, includes source in 'C'. Author: Olaf 'Olsen' Barthel

Fred Fish Disk 685

DiskPrint A label database which prints and stores disk labels for 3.5" and 5.25" disks. Primarily created as a combined database and print utility for FD disks, it includes easy-to-use label library functions (like printing labels for a whole FD series in one turn or multiple print of one label) and labels for most FD disks which are available within a few mouse clicks. Features include a fast search routine, user-definable label lay-out, different label sizes, intuition-based disk directory read-in and a lot more. Very configurable. Works fine with every printer connected to the parallel port and AmigaDOS 1.2, 1.3, and 2.x. This is version 3.51, a major update to version 3.4.3 on disk 567. Both English (PAL & NTSC) and German versions. Shareware, binary only. Author: Jan Geissler

FreeCopy FreeCopy is unlike most copiers in that it does not actually copy disks. It removes the protection so disks can easily be backed up with almost any program, and in some cases be installed on your hard drive. This is version 1.8, an update to version 1.4 on disk 498. Public domain, binary only. Author: Greg Pringle

MCMaster MCMaster is another cassette tape cover printing utility which should work together with any printer which supports pica and fine. Other features include a search function and a list function which allows you to put all the song names in a list gadget to scroll around. Version 1.1, freeware, includes source in 'C'. Author: Michael Watzl

PublicManager Public screen tool which opens public screens which are freely configurable (depth, size, font, etc) and have their own menu (palette, quit, tools, etc). Includes two little tools to modify the public screen modes and the default public screen. Version 1.2, freeware, includes source in 'C' and assembly. Author: Michael Watzl

YatZ One player Yatzee game. This program was written to take up little memory and to multitask nicely. This is version 1.1, an update to version 1.0 on disk 498. Public domain, includes source in 'C'. Author: Greg Pringle

Fred Fish Disk 586

BonAppetit Bon Appetit is a recipe database manager that automates recipe collections and allows for far more flexibility than regular index cards. You can search for recipes by title, keyword, or ingredient. You can import recipes in BonAppetit's own format or 3 popular MS-DOS formats, so you can quickly build a recipe collection. Includes complete recipe utilities and 24 recipes to get you started. Version 1.3. New features include recipe browsing, mass export, less cryptic error messages, and many bug fixes. Shareware, binary only. Author: Boris Shor

DWFIcons A collection of icons for Workbench 2.0, including some that are for an interlaced Workbench. Author: David W. Ferguson

DWFPresets A collection of AmigaDOS 2.0 presets for pointers, palettes, screen modes, and Workbench backdrop patterns. Author: David W. Ferguson

MultiBox Request utility which can be used in scripts. Unlike other tools (QuickRequest, Request, etc) it uses checkbox gadgets. Includes source in 'C'. Author: Michael Watzl

NewPos A tool to resize and move the active shell window directly or from scripts. Freeware, includes source in assembly. Author: Michael Watzl

Fred Fish Disk 687

AmigaEMS A utility program for Amiga bridgeboard users that allows you to use any amount of Amiga memory as extended memory on the bridgeboard. AmigaEMS is LHMEMS 4.0 compatible. This is version 1.01, shareware, binary only. Author: drs. A. D. Hagen

FracBlank A commodities screen blinder written for Kickstart and Workbench 2.04 (or higher). When running will blank the screen and start to draw real plane fractals such as described in the September 1986 issue of Scientific American. The resulting images may remind you of spiders' webs, lace or even the Chladni patterns formed by grains of sand stream across a vibrating surface. This is version 2.2, an update to version 1.8 on disk 588, and includes numerous bug fixes and enhancements (such as a new fractal type and a font-sensitive user interface). Includes source in 'C' and assembly language. Author: Olaf 'Olsen' Barthel

PowerPlayer A very powerful, user friendly and system friendly module player. It can handle nearly all useful module-formats (Noisetracker, MED, Oktalyzer, etc.), can read powerpacked modules and comes along with its own cruncher that uses the powerful InLibr written by Krekel/Barthel. Needs the powerpacker.library and the regtools.library to run, both included in the package. Also includes some sample modules. This is version 2.7, an update to version 2.1 on disk 647, freeware, binary only. Author: Stephan Fuhrmann

SFCoder A program that allows you to encrypt and decrypt files by using a password. Uses complex routines to assure the security of your data. Requires OS 2.0 to run. Version 3.0, freeware, binary only. Author: Stephan Fuhrmann

XPRD eXternal Protocol Driver. A standalone driver utility for doing file transfers with XPR libraries. Has many features like carrier checking and return code redirection (for "stupid" languages). Includes source in 'C'. Author: Oliver Wagner

XSB Documentation and examples of a new library standard for fancy screenblanks: Standard, Shuffle and Psychedelic blunders. Public Domain, source in 'C' is included. OS 2.0 only. Author: Oliver Wagner

BRIDGEBOARD USERS!

Don't waste money, slots or desk space buying extra IBM-compatible or Amiga floppy drives! The **Bridge Drive Commander+** gives you direct access to all your internal and external Amiga drives from the Bridgeboard, and direct access to IBM type 360K and 720K drives from AmigaDOS. AT Bridge Boards can use 1.44M drives. The **Bridge Drive Commander+** is totally transparent and automatic. Put an IBM type disk in any drive and use it just like on any IBM compatible! Put in an Amiga disk and return to Amiga use! Just that simple, just that fast! One drive can use Amiga disks at the same time another is using IBM-compatible disks. Disks are completely usable by other Amiga and IBM-compatible computers. All hardware: no software drivers to load, no precious memory or cards slots used up. Plugs onto motherboard at internal drive connector. (No soldering or wiring changes.) Compatible with all Bridgeboards (8088, 80286), accelerator boards (any 680x0), hard disks and other hardware and software.

Bridge Drive Commander+\$149.50

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Circle 103 on Reader Service card.

Fred Fish Disk 688

OctaMEDPlayer Standalone player program for playing songs made with OctaMED. Can load sng+samples-format and MMD0/MMD1-modules made with MED V2.10 or later, or any version of OctaMED. Can play stand-alone four channel Amiga songs, MIDI songs, 5 to 8 channel OctaMED songs, and multi-modules. Has a nice 2.0 look and works fine under 2.0 as well as 1.3. Version 3.00, binary only. Author: Tejo Kinnunen and AMIGANUTS UNITED

ScreenSnap ScreenSnap allows you to save and close screens of any application. It requires OS 2.04 and includes German documentation. This is version 1.12, binary only. Author: Oliver Graf, T.O.M. Software Wuppertal

Updatelcon A tool to add icons to files and drawers which do not yet have icons attached, to update the default tools and to reset the positions of icons. Very handy for installation scripts. Re-quires Kickstart and Workbench 2.04 (or higher). Version 1.0, includes source in 'C'. Author: Olaf 'Olsen' Barthel

Fred Fish Disk 689

AssignWedge An AssignX clone, redesigned from the ground up, which fixes a couple of potential bugs in the original program and is also able to cope with an internationalized operating system. Kickstart and Workbench 2.04 or higher required. Version 1.1, source in 'C' is included. Author: Olaf 'Olsen' Barthel

Phone A funny strategy game. Your goal is to connect everyone to the phone system without turning out of wire. The country in which these people live is full of high mountains, deep rivers, and highly frequented roads, so connecting everyone up may not be easy. Binary only. Author: Tobias Eckert

TKEd TKEd is a very comfortable Intuition-based ASCII editor. It can read texts packed with PowerPacker, has user-definable menus, a comfortable AREXX-interface with 102 commands, an interface to some shortcuts for programmers, macros, undo, supports foldings, and many other features. TKEd is reentrant and can be made resident. It also checks itself for link-viruses. Version 1.05, an update to version 1.00a on disk 620. Binary only. Author: Tom Kroener

Fred Fish Disk 690

FastGif A fast GIF87 file viewer written in very optimised asm, but displays only pictures with no more than 32 colors. Supports overscan, NTSC & PAL display, allows scrolling for big pictures. Version 1.00, binary only. Author: Christophe Pasquello

Yet another file kind utility, different from other programs of this kind in that it requires Kickstart and Workbench 2.04 (or higher) to run, sports a

font-sensitive user interface, includes Workbench Applcon/AppWindow support, filetype identification and other goodies. Version 1.7, includes source in 'C' and assembly language. Author: Olaf 'Olsen' Barthel

HDFixer Some of the newer A3000's have high density floppy drives. In the 37.175 version of kickstart, HD disks are not completely supported in HD mode. This program patches the system so that kickstart V37.175 owners are able to use 1.71 MB HD disks in the floppy drive. Requires Workbench 2.04. This is version 1.10, an update to version 1.00 on disk 645. Binary only. Author: Peter-Iver Eder

Rescue A non-multitasking shoof'em up game with smooth scrolling in three directions, four different pieces of music, highscore list, cheat mode, etc. Automatically notices if started on an NTSC or PAL machine, and uses full PAL screen or NTSC overscan screen. Binary only, shareware. Author: Tobias Eckert

VirusHunter A harmless screen hack. Author: Tobias Eckert

To Be Continued.....

In Conclusion

To the best of our knowledge, the materials in this library are freely distributable. This means they were either publicly posted and placed in the public domain by their authors, or they have restrictions published in their files to which we have adhered. If you become aware of any violation of the authors' wishes, please contact us by mail.

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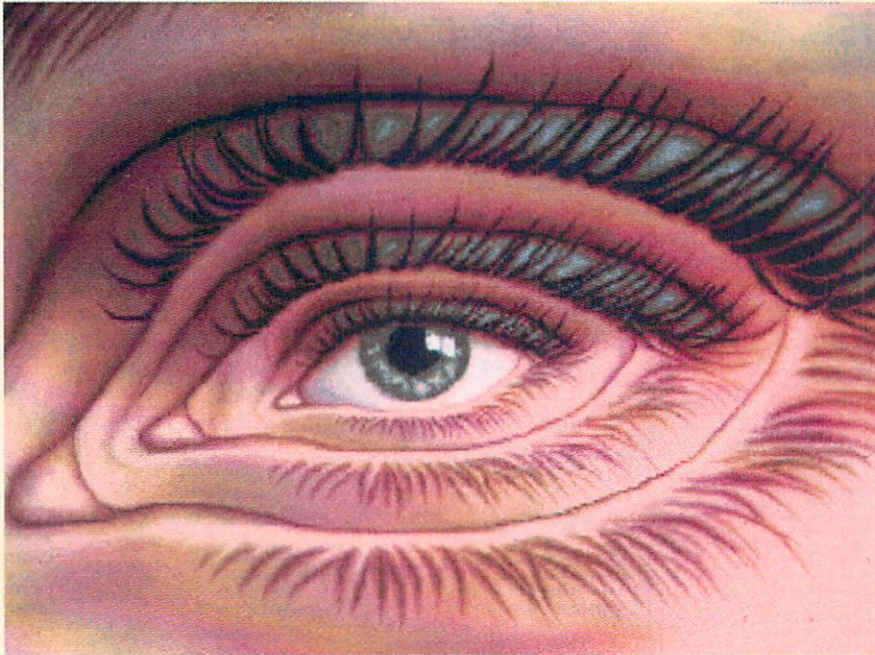
PIM Publications, Inc.
P.O. Box 869
Fall River, MA 02722

AC is extremely interested in helping any Amiga user groups in non-commercial support for the Amiga.

•AC•

And furthermore...

Artistic Impressions: The Computer Art of Ilene Astrahan & The Music and Animation of Tom Law



Ilene uses her Amiga to produce stunning images.

ILENE ASTRAHAN STARTED working with the computer after many years of using traditional painting media and making jewelry. She now creates her masterpieces on an Amiga, printing hard copies as ink-jet print-outs, cibachromes, and editions of color laser copies. Her work explores the alchemical transformations of New York City skylines, portraits, and mathematical fantasies. Her more traditional work can be found in many different collections including the Smithsonian Institute and Malcom Forbes collections. Unfortunately, she has not been able to find similar acceptance for her computer art.

Ilene uses an extensive computer set-up which includes an Amiga 2000, *Digiview*, *DeluxePaint*, and *Mathvision*. The mathematical creations are the main focus of many of Ilene's creations. She likes the infinite number of ways to manipulate an image just by changing a variable in an equation. Recently, computer artist Ilene Astrahan's work was featured at the TAI Gallery in New York. Ilene was also the winner of the 1987 National Gold Medal for Amiga Graphics.

•AC•

"MY BIG SPHINX OF QUARTZ" is Tom Law's way of expressing himself with the Amiga. Tom uses 15 Amiga computers to produce what has been deemed "an orchestra of animation."

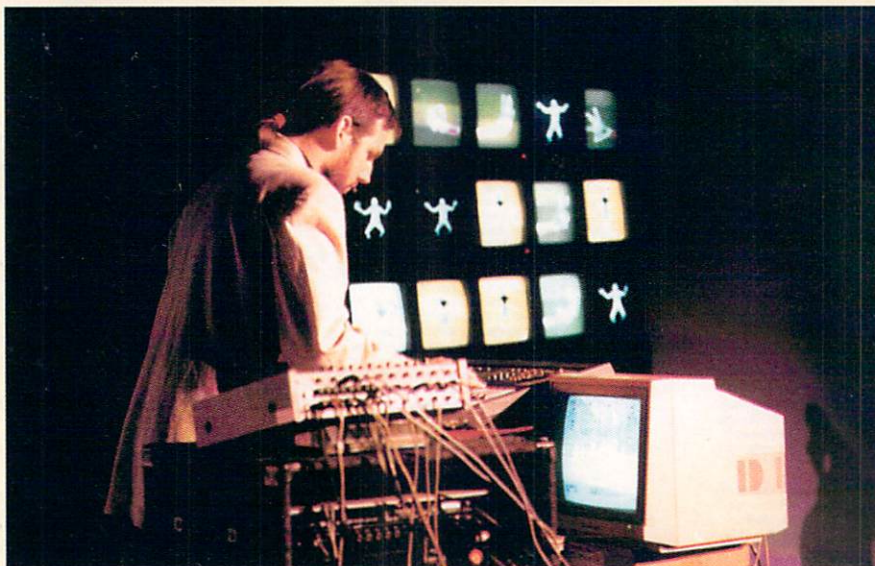
With 15 Amiga 500s, Tom's computers interact with performances of musicians, dancers, and other artists who perform live with the Amigas. (The Amigas were gener-

ously loaned by Commodore.) Tom, in conjunction with the South Carolina Arts Commission, puts on shows for all groups. He can specifically tailor the show to meet the group's needs or wants.

Tom has also released a CD which was created mainly with the help of *Keyboard Controlled Sequencer*, Dr. T's sequencing software. The CD features some of his earlier music and many pieces from his show. Tom also regularly conducts residencies in Computer Creativity in schools around South Carolina.

The digitized video projections in Tom's show are created with another Amiga 500 running *Vidi-Amiga* software. This software was also used to create the dance animations played by the animation orchestra. To create the music itself, Tom uses an Ensoniq SQ-80 keyboard synthesizer with an Akai S-900 digital sampler. These are controlled by yet another Amiga 500 running Dr. T's *Keyboard Controlled Sequencer*, which also controls the animation orchestra.

•AC•



Tom Law and his Amiga-produced video wall.

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Name _____
Street _____
City _____ ST. _____ Zip _____
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- A. Which of the following do you now own?
(please check all that apply)
- O 1. Amiga 500 O 4. Amiga 2500
O 2. Amiga 1000 O 5. Amiga 3000
O 3. Amiga 2000 O 6. Do not own an Amiga

- B. If none of the above, which do you plan to buy soon?
O 7. Amiga 3000 O 9. Amiga 2000
O 8. Amiga 2500 O 10. Amiga 500

- C. Which Amiga hardware product do you plan to buy next?
O 11. memory expansion O 15. modem
O 12. hard drive O 16. music tool
O 13. IBM emulators O 17. video product
O 14. printer O 18. accelerator
O 19. other (please specify): _____

- D. Which Amiga software product do you plan to buy next?
O 20. C language O 27. spreadsheet
O 21. Forth language O 28. database
O 22. Modula-2 language O 29. financial
O 23. Assembly language O 30. video
O 24. BASIC language O 31. graphics
O 25. entertainment O 32. music
O 26. telecommunications O 33. other (please specify): _____

- E. How much money are you likely to spend on all Amiga product purchases this year?
O 34. \$0-\$250 O 38. \$1501-\$2000
O 35. \$251-\$500 O 39. \$2001-\$4000
O 36. \$501-\$1000 O 40. over \$4000
O 37. \$1001-\$1500

- F. Where do you buy Amiga products?
O 41. local Amiga Dealer O 43. manufacturer
O 42. discount department store O 44. mail order

- G. How many times have you purchased an Amiga product after seeing it advertised in AC?
O 45. frequently O 47. once
O 46. occasionally O 48. never

- H. How do you obtain your copy of AC monthly?
O 49. subscribe (how long? _____ years)
O 50. buy at local Amiga dealer
O 51. buy at bookstore/newsstand/software store

- O 52. other _____
I. How many others *not including yourself* usually see or read your issue of AC each month?

- O 53. _____ others, in addition to myself
J. How do you read AC each month? (please check one):
O 54. read virtually everything, cover-to-cover
O 55. scan through pages and read items of interest only
O 56. check table of contents and maybe read 1-2 articles
O 57. read my favorite column(s) only
O 58. read very little of it

- K. Have you ever purchased a copy of AC's GUIDE?
O 59. yes—but only once. O 61. no—but plan to soon.
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| 131 | 132 | 133 | 134 | 135 | 251 | 252 | 253 | 254 | 255 |
| 136 | 137 | 138 | 139 | 140 | 256 | 257 | 258 | 259 | 260 |
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| 211 | 212 | 213 | 214 | 215 | 331 | 332 | 333 | 334 | 335 |
| 216 | 217 | 218 | 219 | 220 | 336 | 337 | 338 | 339 | 340 |

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Street _____
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(please check all that apply)
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O 3. Amiga 2000 O 6. Do not own an Amiga

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O 8. Amiga 2500 O 10. Amiga 500

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O 36. \$501-\$1000 O 40. over \$4000
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O 60. yes—two or more times. O 62. no—not interested.
O 63. no—use my dealer's copy.

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| 166 | 167 | 168 | 169 | 170 | 286 | 287 | 288 | 289 | 290 |
| 171 | 172 | 173 | 174 | 175 | 291 | 292 | 293 | 294 | 295 |
| 176 | 177 | 178 | 179 | 180 | 296 | 297 | 298 | 299 | 300 |
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| 191 | 192 | 193 | 194 | 195 | 311 | 312 | 313 | 314 | 315 |
| 196 | 197 | 198 | 199 | 200 | 316 | 317 | 318 | 319 | 320 |
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| 206 | 207 | 208 | 209 | 210 | 326 | 327 | 328 | 329 | 330 |
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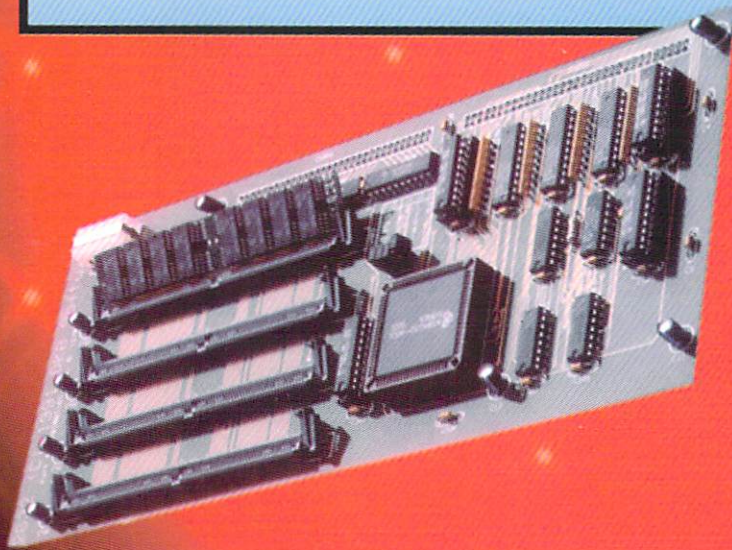


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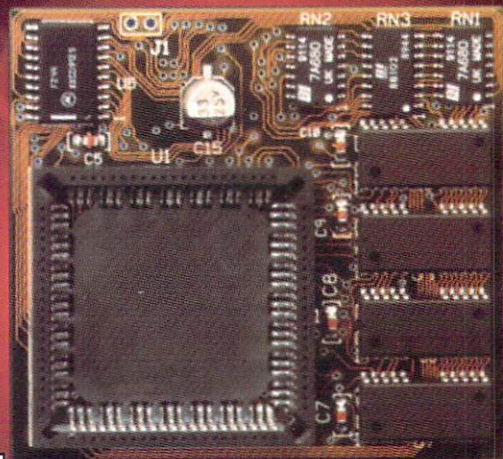
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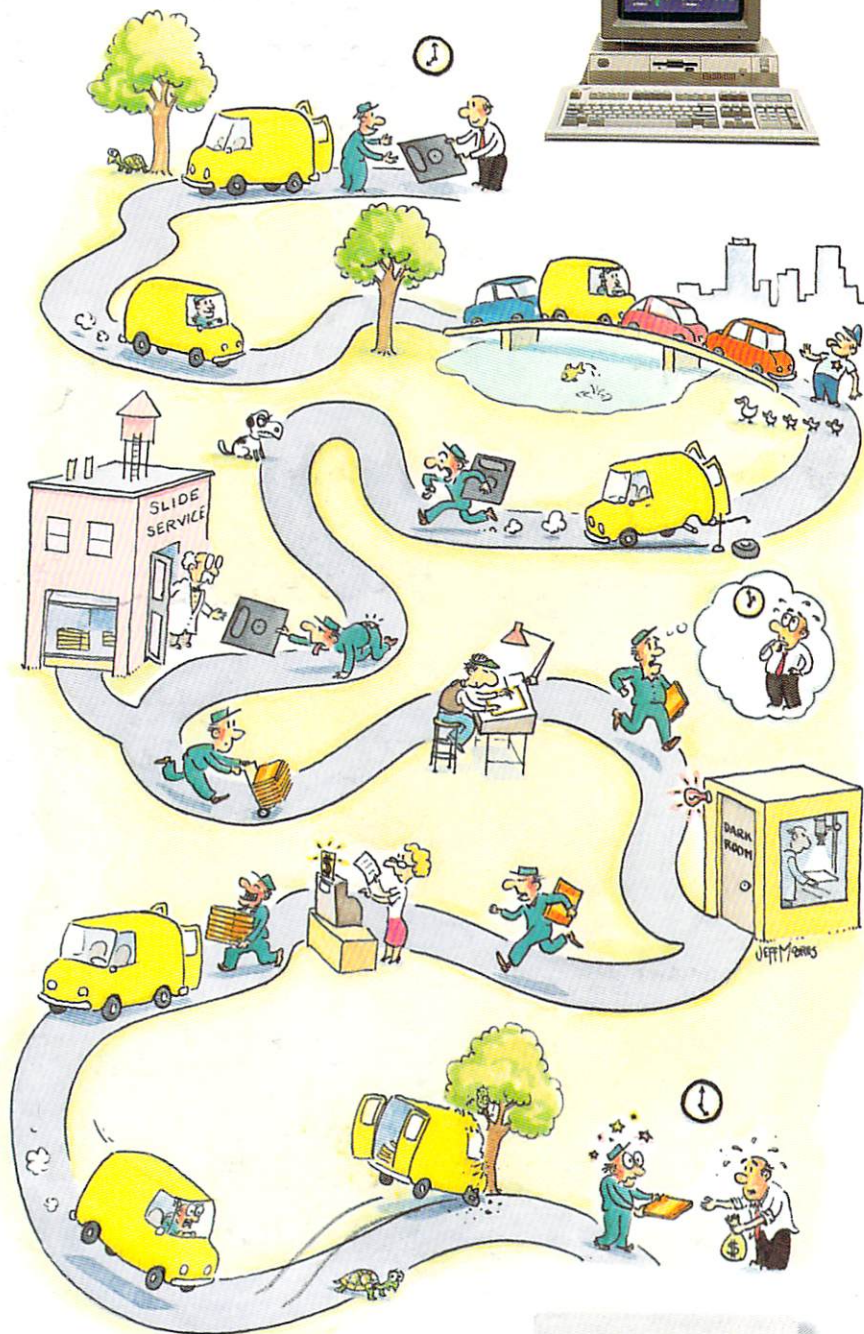
A vintage IBM PC system is shown, consisting of a monitor, a system unit, and a keyboard. The monitor displays a line graph with a red line and a green line, set against a background of a landscape with trees and a blue sky. The system unit is a beige desktop model with a 3.5-inch floppy disk drive. The keyboard is a standard IBM PC keyboard with a numeric keypad.



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